Industrial Equipment News

FOUNDED 1933

ORIGINAL REPORTER OF *What's New* IN EQUIPMENT, PARTS, MATERIALS

AFFILIATED WITH THOMAS REGISTER OF AMERICAN MANUFACTURERS

If you write maker identify as IEN - 8319

BENDING . . Hand rolling machine forms closed circles, angle bends

Source: O'NEIL-IRWIN MFG. CO.
547 Eighth Ave., Lake City, Minn.

Samples as specified upon request

Two passes through this new Di-Acro rolling machine are sufficient to form a true circle in 16-gage steel to measure 1 in. in diameter or larger depending upon the setting of a cam-positioned idler roll. Two machine sizes take work to 6 and to 12 in. in width. Both machines can be set up also for round, flat or square stock in maximum equivalent section to ¼-in. round steel bar or tube.

The operator adjusts the machine for material thickness and circle diameter. He then inserts the work from the front while turning the operating crank in a clockwise direction until about one-half of the material has been run through while the cam-positioned idler roll is retracted so there is no bending action. While continuing to turn the crank the operator pulls the cam lever into bending position to form a half circle as the work feeds through.

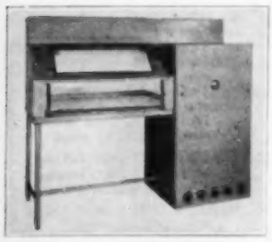
The work is next reinserted with its position reversed and the bending roll in active position. Upon continuing the rolling action the work is formed into a true closed circle. It can be removed after releasing the roll bearing as shown to the right in the illustration.

Bends can be located in any position along a piece of work by feeding it through to the location where the bend is required and then operating the cam lever. As a result it is possible to produce a variety of shapes with straight sections on both sides of a bend to a predetermined layout.

If you write maker identify as IEN - 8320

FURNITURE . . Sterile work bench, air pressurized, free from dust, germs

Source: BAKER CO.
51 Industrial Ave., Dept. A, Maplewood, Maine



For clean precision work

Non-magnetic stainless steel pans form the bases of 1 to 4 work-space sections in this new Sterilshield cabinet type bench. Dual 30-watt fluorescent lamps provide illumination for each 24 by 40-in. work area. Vision is unrestricted through a plate glass window in the hinged sloping top. It can be raised to admit large work pieces.

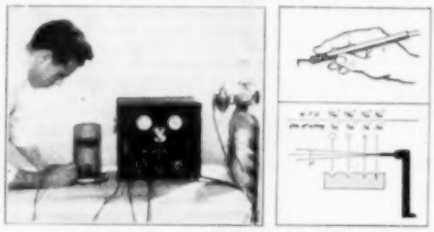
The open front makes it possible to work without the restriction of gloves, armholes or other limited access ports. A section slides under the bench top to pull out and hinge upward to close the front opening when the work space is not in use.

Assembly includes a central air cleaning unit employing electrostatic dust collecting equipment and a motor driven blower to pressurize the work space sections. Ultra-violet lamps can be specified when it is desired to kill airborne germs. The cleaning equipment and the blower are started whenever any work space is opened for use. The company is prepared to supply exhaust blowers.

If you write maker identify as IEN - 8321

CUTTING . . Abrasive jet equipment for hard metals, glass, ceramics

Source: S. S. WHITE DENTAL MFG. CO.
10 E. 40th St., 23rd Floor, New York 16, N. Y.



Bulletin 5205 provides illustrated detail

Abrasive particles suspended in a stream of dry air or inert gas are carried through an 0.018-in. nozzle at 75-lb. pressure and a speed of 1,100 fps. in this new machine. The operator holds the nozzle above a work surface to direct the stream of particles.

Thin sections of very hard materials can be drilled through. Hard and brittle materials can be cut, etched, burred, polished. Metallized films can be removed selectively from the surface of glass and ceramics. Cutting proceeds without appreciable rise in temperature. If the abrasive comes in contact with resilient or soft materials such as rubber, cloth, and certain types of plastic, or a worker's skin, there is no cutting action.

Airbrasive trade names the machine which is supplied as an assembly of the control and feed housing, a hand piece with a right angle nozzle and tubing, a foot switch and extension cord, a gas cylinder connection and its tubing, power supply cord and three-wire plug for connection to a 110-volt 60-cycle ac. circuit, blow-off tube and a 30-lb. can of abrasive powder. It is important that this special powder be employed for continuing satisfactory operation.

The user supplies a source for clean dry air or employs a pressure cylinder of carbon dioxide or nitrogen. He also provides the dust exhauster hood in which the work is carried on. This hood should be able to handle about 200 cfm. of dust laden air. The abrasive is used once only. A charge of about 11 oz. in the mixing chamber in the control housing will provide ½ to ¾ hr. of continuous operation when cutting glass.

If you write maker identify as IEN - 8322

PURCHASING GUIDE . . Available free to Industrial Equipment News readers

Source: THOMAS PUBLISHING CO.
467 Eighth Ave., New York 1, N. Y.

First come first served

We suggest your prompt reply to this offer to send you a free copy of the 1952 Edition of Thomas' Register Junior. In it are the listings of names, addresses and ratings of selected manufacturers under some 50,000 product headings. Knowing the existing difficulties in finding sources for prompt supply of many products, we anticipate an unusual demand.

The book, a companion publication to the main Thomas' Register, will contain approximately 1,200 pages in its new four-column 6 by 9-in. size. It will be about 1½ in. in thickness. It is scheduled to come from the presses shortly and we will accept reservations as long as the supply lasts. You can make yours by checking the Reader Service Form with this issue or by writing to us.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 30

AUGUST, 1952
VOL. 20 No. 8

What do you need? . . . check this complete subject index for your current product needs. Asterisks (*) after page numbers mean editorial items. Others refer to advertisements.

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- ☐ *Production, Mr.* _____
- ☐ *Engineering, Mr.* _____
- ☐ *Product Design, Mr.* _____
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- ☐ _____

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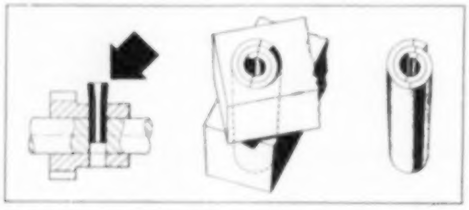
ATTENTION PLEASE

If a post card with your address stencil is attached to the front of this issue please check and return it at once so we can verify your address and continue your name on our mailing list. No cost—no obligation. Thanks.

If you write maker identify as **IEN - 8323**

FASTENING . . Cylindrical coil pin to key and pin equipment assemblies

Source: C. E. M. CO.
22-26 School St., Danielson, Conn.



Ask for Spirol Pin bulletin and price list

Strip steel is rolled into coil shape and heat treated in manufacture of this new Spirol machine pin. It is designed to apply in a drilled hole to secure assembled parts in place. The pin provides radial spring action tending to return it to its normal position of coils in relation to each other when it is compressed several thousandths on the diameter by driving or pressing.

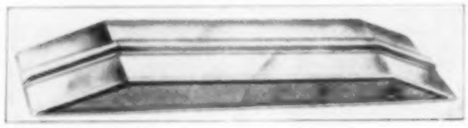
It absorbs shock loadings. It takes the place of solid dowels or taper pins, both of which require reamed holes. It applies in service as a key in axial position between a shaft and mounted part. It serves as a locating means for stationary as well as moving parts. It can be removed and applied repeatedly in service.

Sizes range from 1/16 to 1/4 in. in nominal diameter and from 3/8 to 2 1/2 in. in length. Expanded diameter is 0.066 in. for the 1/16-in. size and 0.258 in. for the 1/4-in. size prior to driving. Three types include light, medium and heavy duty.

If you write maker identify as **IEN - 8324**

BRIDGE . . Magnesium for trucks spans a ditch, rates 8 ton per pair

Source: MAGNESIUM PRODUCTS
746-50 W. Virginia St., Milwaukee 4, Wis.



Pictured in service in Bulletin DB1452

Three castings made of magnesium in box section are heli-arc welded into a single unit to form this new Ditch Bridge. A wheel guide is welded lengthwise through the center. This guide rides between the tires on the dual rear wheels of a truck. A pair of the bridge units can be set down across a road ditch and a loaded truck backed safely over them.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8325**

FOR EVERY INDUSTRIAL LIFTING JOB

DUFF-NORTON

Hy-Power ★ Hydraulic

JACKS

Capacities 3 to 50 Tons

There is a Duff-Norton Hydraulic Jack for every lifting job throughout your plant. These powerful jacks give smooth, easy, dependable performance and will lift loads weighing from 3 to 50 tons. Save effort—time and money with Duff-Norton Hydraulic Jacks!

Write for Bulletin AD-16G.

THE **DUFF-NORTON** MANUFACTURING CO.
Main Plant and General Offices: PITTSBURGH 30, PA.—Canadian Plant: TORONTO 6, ONT.
"The House that Jacks Built"

If you write maker identify as **IEN - 8326**

For Engineers only . . .

● Full color print of oil painting by famed sports artist, Lynn Bogue Hunt, plus helpful decimal equivalent chart for your wall. Compliments of New Departure Ball Bearings, while the supply lasts. Address: Advertising Department, New Departure, Division of General Motors, Bristol, Connecticut.

NEW DEPARTURE BALL BEARINGS

If you write maker identify as **IEN - 8327**

FINGER-TIP

CONTROL

Improved trigger action gives you extra speed, extra safety. Kidde Carbon Dioxide portables act as fast as you can think and pull the trigger. Write for free literature.

Kidde

Walter Kidde & Company, Inc.
836 Main St., Belleville 9, N. J.

If you write maker identify as **IEN - 8328**

YOUR **LOW-COST** WAY TO **HIGH-STRENGTH** METAL ASSEMBLIES

Braze with EASY-FLO

● EASY-FLO's combination of low flow point, exceptional fluidity and deep, instantaneous penetration, is the reason this low-temperature silver brazing alloy just naturally makes high tensile and impact strength joints at a surprisingly low cost per joint. A typical example — the flywheel magneto shown — formerly cast—now an economical EASY-FLO brazed assembly — strong as solid metal.

BULLETIN 20 gives full details about EASY-FLO brazing speed, strength, economy. Write for a copy today.

Hub, 2 counterweights, 2 pole pieces and 2 magnets are jigged in stamped shell and gas-air brazed, with EASY-FLO ring and wire pieces preplaced. Heating time per magneto, 2 1/4 -mins. Production, per 4-man, 8-hr. shift average 220.

85th Anniversary

HANDY & HARMAN 82 Fulton St. New York 38, N. Y.

If you write maker identify as IEN - 8329

Have you heard about

INCOLOY

(32 Nickel — 21 Chromium)

... Inconel's high-temperature companion alloy

Designers know they can get good high-temperature resistance and strength in Inconel®. But NPA has forbidden its use in many applications.

However, it now has a new companion alloy — Incoloy!

Here's what you get in high-temperature Incoloy:

1. A composition of 32% Nickel and 21% Chromium.
2. Excellent resistance to oxidation.
3. Strength at high temperatures.
4. Good workability.
5. Good welding properties.
6. Resistance to sulfidation.

The use of Incoloy is permissible in most applications described in Schedule C to NPA order M-30.

Forms supplied — Incoloy is produced in the usual mill forms — billets, rounds, flats, hexagons, sheet and strip, tubing and wire.

FREE! Latest information on Incoloy!

Now you can get technical data on Incoloy for office and shop reference. Just circle the reply card key number shown above for a copy of the four page "Preliminary Report on Incoloy."

THE INTERNATIONAL NICKEL CO., INC.
67 Wall Street, New York 5, N. Y.

NICKEL ALLOYS

MONEL® • "R"® MONEL • "K"® MONEL
"KR"® MONEL • "S"® MONEL • NICKEL
LOW CARBON NICKEL • DURANICKEL® • INCONEL®
INCONEL "X"® • INCOLOY • MIMONICS

If you write maker identify as IEN - 8330

it's STRONG

it's FLEXIBLE

and it SAVES YOU money

SECURITYFLEX*

PORTABLE CORD

Anaconda Wire & Cable Company, 25 Broadway, New York 4, N. Y.

the right cable for the job

ANACONDA®
WIRE AND CABLE

*Trademark

If you write maker identify as IEN - 8331

Browning

FLEXIBLE COUPLINGS WITH SPLIT TAPER COMPRESSION BUSHINGS

(1) Bushed type—eliminates expensive reboring—wide bore selection
(2) Completely machined from solid steel or malleable castings
(3) Compact-maximum strength
(4) Neoprene insert-added strength, resiliency, shock absorbing, oilproof, greaseproof, heat resistant
(5) Easy to mount, easy to remove, positive locking clamp fit, 1/6th to 40 H.P. range—available from stock

Write for free Literature and the name of the Browning Gripbelt distributor near you

BROWNING MANUFACTURING COMPANY
INCORPORATED
1950 BROWNING DRIVE MAYSVILLE, KENTUCKY

If you write maker identify as IEN - 8332

DRIVE . . Centrifugal clutch, four sizes, 1/2 to 25 hp., takes sheave

Source: ELGIN SWEEPER CO.
3-7 Oak St., Elgin, Ill.

PATENTED MOVEMENT OF SHOE OUTWARD AND REARWARD

Shoes slide in ways as indicated

Three shoes, friction faced, are mounted to slide in ways tangent to the hub of this new clutch. They are restrained inward by tension springs anchored in webs integral with the back of the ways. Smallest assembly in the line has an output range between ½ and 3½ hp. Largest Model 400 has a range from 12 to 25 hp. Point of engagement is dependent upon the strength of the set of springs selected.

Hub bore can be specified at ⅝ to ⅞ in. on the smallest unit and a V-belt sheave is available for the hub with a single groove at pitch diameter from 3 to 5.4 inches. The largest Model 400 is available with a 1¼ to 1½ in. bore and either a 2, 3 or 4 groove output V-belt sheave with pitch diameter at 4.4 to 9.4 inches. Inclination of the ways to the rear in relation to rotation makes the engagement self-energizing and eliminates chatter. Slow down at the engine or motor results in free disengagement.

If you write maker identify as IEN - 8333

PUMP . . Rotary design carries nylon rollers in radial slots

Source: HYPRO ENGINEERING INC.
402-6 N. Washington, Minneapolis 1, Minn.

Particularly for transfer service

The pumping chamber in this new Model-750 rotary pump is formed by off-set position of the rotor with reference to the housing bore. Pumping action is set up by nylon rollers riding in radial slots in the rotor to maintain contact with the housing bore by centrifugal action. The pump will deliver about 15 gpm. at 600 rpm. Pressure is to 350 lb. per square inch.

The housing is made of Ni-Resist. The shaft on which the rotor is mounted rides in permanently lubricated ball bearings and is made of stainless steel. Threaded pipe connections ⅝ in. are provided at the inlet and the outlet which lie in line with each other. The assembly weighs 11 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8334

SAFETY EQUIPMENT FOR ALL INDUSTRIES

4 OUTSTANDING FEATURES IN THESE IPCO All Steel WASTE RECEPTACLES

1. FIREPROOF
2. SELF-CLOSING
3. SANITARY
4. CONVENIENT

Fitted with an inner bag or separate metal container, either of which is easily removed for disposing of contents. Strongly made of heavy gauge furniture steel, baked enamel finish. Choice of sizes and colors.

WRITE FOR BULLETIN NO. 60

IPCO Safety Equipment for all Industries

INDUSTRIAL PRODUCTS COMPANY
2801 N. FOURTH STREET • PHILADELPHIA 33, PA.

If you write maker identify as IEN - 8335

LUBRICATION ECONOMY

"LUBRIPLATE saved us $2,098.16 in seven months"

The BROWN COMPANY, Quality Paper Makers of Berlin, New Hampshire, said this in an operating report on one of their Kraft Mill Lime Kilns after changing over from conventional oil lubrication to LUBRIPLATE No. 130AA. Huge savings like this cannot be overlooked. It is worth your while to see what LUBRIPLATE Lubrication can save you.

1. LUBRIPLATE reduces friction and wear
2. LUBRIPLATE prevents rust and corrosion
3. LUBRIPLATE is economical to use

Write today for case histories of savings made through the use of LUBRIPLATE in your industry.

LUBRIPLATE DIVISION
Fiske Brothers Refining Co.
Newark 5, N. J.—
Toledo 5, Ohio

The Different LUBRICANT!

DEALERS EVERYWHERE, consult your Classified Telephone Book

If you write maker identify as IEN - 8336

IN A Rut?

DON'T LET WORN FLOORS SLOW UP PRODUCTION!

A *real* heavy-duty floor must be concrete—*good* concrete. 'Incor' 24-Hour Cement assures stronger, longer-lasting, heavy-duty concrete floors—by curing THOROUGHLY in 24 hours, instead of a week or more.

Don't let worn-out floors slow production—rebuild floors over a week-end with 'Incor'®—no plant tie-up—no time-loss!

Write for booklet, "Heavy-Duty Floors"—address Lone Star Cement Corporation, 100 Park Avenue, New York 17.

*Reg. U.S. Pat. Off.

LONE STAR CEMENT CORPORATION

Offices: Abilene, Tex. • Albany, N. Y. • Bethlehem, Pa. • Birmingham • Boston Chicago • Dallas • Houston • Indianapolis • Kansas City, Mo. • New Orleans New York • Norfolk • Philadelphia • Richmond • St. Louis • Washington, D. C.

If you write maker identify as IEN - 8337

You Can be Sure of Clean Dry Air for your Compressed Air Tools

3500 Gallons

1 YEAR'S water extraction from air lines equipped with Adams Aftercooler and Cyclone Separator

with **ADAMS Aftercooler and Cyclone Separator**

• Reducing compressed air temperature to within 10° of the cooling water, Adams Equipment condenses and removes destructive water and oil vapors from your air lines.

PROTECTS your lines against rust, scale, corrosion
PROTECTS air instruments from fouling, and nozzles from clogging
PREVENTS freezing of pipes in winter
AVOIDS imperfections or spoilage in sprayed finishes
PROLONGS the life of your pipe lines, air instruments and tools

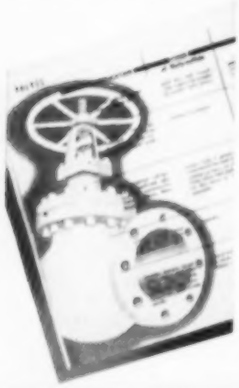
Write for new Bulletin 176

R.P. ADAMS CO., INC. 219 E. PARK DRIVE BUFFALO 17, N. Y.

If you write maker identify as IEN - 8338

Moly-sulfide
A LITTLE GOES A LOT

is proving effective even where other lubricants have failed



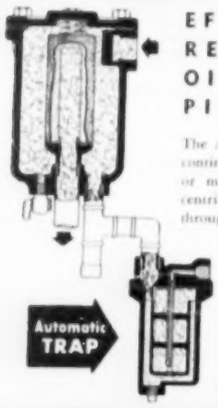
Moly-sulfide, a solid-film lubricant, is proving useful in difficult friction applications that new uses are found daily. 154 cases of how serious problems were solved are described in our new booklet.
Your own problems may be like those described. Write for your copy of this booklet.

Climax Molybdenum Company
500 Fifth Avenue · New York City 36 · N·Y

MS-8

If you write maker identify as IEN - 8339

Poro-Stone Filtration FOR COMPRESSED AIR



EFFICIENTLY REMOVES OIL, WATER PIPE SCALE

The Adams *Poro-Stone Filter* gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation.

Write for complete data Bulletin 176.

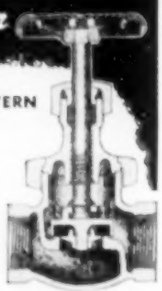
R. P. ADAMS CO., Inc.
219 E. Park Dr., Buffalo 17, N. Y.

ADAMS *Poro-Stone* AIR FILTER

If you write maker identify as IEN - 8340

CRANE COMPOSITION DISC BRASS VALVES
unusually rugged... quick to repair

GLOBE OR ANGLE PATTERN



Choose this Crane Valve where quick repairs are important. You stop a leak in minutes—by replacing the disc holder assembly with a "spare." The original is fitted with a new disc at your convenience—ready for the next need. In service, you'll find this valve unusually rugged and capable of withstanding severe operating strains.

Recommended for a wide range of service when equipped with the proper disc. No. 1 Crane disc supplied for saturated steam or hot water up to 500°F. No. 6 disc for cold water, oil, air or gas. Union or bolted bonnet, depending on size. Get full details from your Crane Representative, or see your Crane Catalog.

WORKING PRESSURES
Up to 150 pounds saturated steam. 300 pounds cold water, oil, or gas, depending on ends.
Screwed or Flanged Ends.
Sizes: ¼ to 3 in.

CRANE CO., 836 S. Michigan Avenue, Chicago 5, Ill.
Branches and Wholesalers Serving All Industrial Areas

CRANE *Everything for Every Piping System*
VALVES • FITTINGS • PIPE • PLUMBING AND HEATING

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Vol. 20 AUGUST, 1952 No. 8

Incentive Management

All of the workers at Lincoln Electric Company have the same basic wage rates as those usual in Cleveland, Ohio, for comparable operations. In addition, each has the opportunity to earn an extra reward through cooperation, skill, development of latent ability and desire to use his abilities for the best interests of consumer, worker and owner. He is rewarded for the things he does that are helpful. He is penalized if he does not do as well as others in all the same ways. He is counted as a member of the company team.

He is rated by those, also on the team, who have accurate knowledge of some phase of his work. He is rated three times a year and is advanced or retarded in his standing by his current record. The sum of the ratings determines his share in the extra reward and his advancement on the team. Thus income, advancement and standing are determined by the worker ratings.

As a result the worker tries to be productive, accurate, and helpful in finding new methods for more efficient operation. He eliminates waste, saves time and develops into a self-starter who needs little supervision. New methods and techniques flow naturally.

The total amount of the reward for division among workers and management, on the basis of the contribution of each individual to the success of the company for the year, is all of the balance after paying a 6 per cent dividend to the stockholders and setting aside an amount of "seed money" for the company's future as determined by the directors based on current operations. The reward has represented 20 to 128 per cent of wages and salaries per year over the past sixteen years. The average reward total for each worker has been a bit over $40,000 in that time.

James F. Lincoln, president of the company, tells how this has been accomplished in his remarkable book, "Incentive Management". He points out the danger of "going soft" under the current conception of security. He shows how security can be made certain only by earning it in fair competition by each individual working for a better standard of living.

He points to the progressively greater importance for desire on the worker's part to make equipment work satisfactorily and to care for it as mechanization increases . . . to the probability that everything now necessary as a standard of living will be replaced by a different and more useful product . . . that the number of such products will be enormously increased . . . that there is no possible end to industrial progress except the imagination and ability of the industrial team.

Mr. Lincoln analyzes incentives to show they subordinate money, short hours, safety, seniority, security, bargaining power to stand upon "recognition" as the real one. He calls it, "Gaining by our skills the feeling that we are a man among men, that we have desirable abilities, that we are different in ways which others admire and wish to emulate".

The book contains a suggested program, names conditions that are requisite to its success. Right now, prior to November voting, would be an excellent time for a manufacturer to purchase a supply for distribution to his own workers with one for himself. Price is $1.

W. E. Irish.

If you write maker identify as IEN - 8341

LOW COST, ORGANIZED STORAGE SPACE
32-DRAWER (96 COMPARTMENTS)
Metal Storage Units

CRYSTAL CLEAR OR MATCHING GRAY PLASTIC DRAWERS

MODEL J-32
$11.95
F.O.B. AKRON
15⅛" high
6" deep
12½" wide

HUNDREDS OF USES:
Useful in every shop, lab, office, stockroom, store, home, assembly line . . . in radio, TV, photographic and aircraft work.

Orderly storage for small parts, bolts, nuts, drills, tools, carbide tips, buttons, thread, paper clips, labels, pins, rubber bands, stamps, films, photo supplies, negatives, fishing tackle, artist supplies, medical supplies, marine supplies, drugs, jewelry, etc. Safety catch ends accidental spilling, identify card drops into slot in drawer front.

Made in 7 sizes:

J-64	64 drawers	(192 compartments)	$22.95
J-48	48 drawers	(144 compartments)	16.75
J-32	32 drawers	(96 compartments)	11.95
J-24	24 drawers	(72 compartments)	9.95
J-16	16 drawers	(48 compartments)	6.95
J-12	12 drawers	(36 compartments)	5.25
J-8	8 drawers	(24 compartments)	3.95

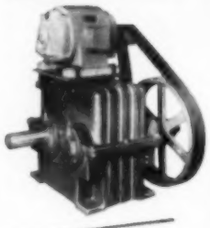
Alloy Kit for Dividing 8 Drawers LENGTHWISE (concave dividers FREE with each cabinet) $6

SEND FOR FREE DESCRIPTIVE FOLDER

AKRO MILS, INC. P.O. BOX 989 AKRON 9, OHIO

If you write maker identify as IEN - 8342

SACO SPEED REDUCERS



SIMPLIFY DRIVE PROBLEMS

Adapt standard motors to the best speed for every job. Any reduction ratio between 10 to 1 and 60 to 1 is possible with a Saco Reducer by an easy change of sheaves on the V-belt drive.

Almost any full speed motor can be mounted on top or end of reducer. Pivoted motor base permits easy adjustment of belt tension, saves floor space and simplifies installation. Steel helical gears and ball bearings give long life and top efficiency.

The wide range of output speeds possible with a Saco Speed Reducer will allow the use of standard, full speed motors on a wide variety of jobs.
Two reductions attained (1) through V belts, (2) through steel helical gears.

Write for Catalog 643

STEPHENS-ADAMSON MFG. CO.
Tellevel—Bin Level · SealMaster Ball Bearings
Controls · Car Loaders · Car Pullers · Winches
Variable Speed Reducers · Saco Speed Reducers
231 RIDGEWAY AVE., AURORA, ILL.

If you write maker identify as IEN - 8343

good hunting begins *here* ---

Good hunting with missiles begins with accurate launching. To overcome unpredictable performance of some connectors, Wiggins designed this solenoid actuated, leakproof coupling. It can be actuated by electric, hydraulic or pneumatic controls and has performed unfailingly for more than one year.

OPERATION—Both halves self sealing; nipple goes with missile, mating half remains on ground. MATERIAL—Aluminum alloy. LINE SIZES—¾", ½", ¼" in production. Write for engineering and performance data.

Wiggins
Aircraft Division
E. B. WIGGINS OIL TOOL CO. Inc.
3424 E. Olympic Blvd., Los Angeles 23

INST-O-MATIC COUPLINGS

If you write maker identify as IEN-8344

. . . increase production, lower operating costs!

with finger tip control

LOVEJOY

variable
SPEED PULLEYS

A mere turn of the hand is all that is required for instant speed correction on your machinery. Changes in production schedules, operator speed adjustment or specification variations are accomplished without loss of time or labor. Benefits of LOVEJOY finger-tip-control pulleys are reflected in an *improved* product—manufactured at a *lower* cost. Sizes from fractional to 8 hp. Ratios to 3 to 1.

Get full information on this complete line of economical variable-speed pulleys. Write today for fully illustrated catalog and engineering manual.

LOVEJOY FLEXIBLE COUPLING CO.
5014 W. Lake Street, Chicago 44, Illinois
Also Mfrs. Lovejoy Universal Joints and Lovejoy Flexible Couplings

If you write maker identify as IEN-8345

LOAD CARS FASTER, EASIER
with the S-A SWIVELOADER

Powerful centrifugal thrower unit loads dry granular bulk materials up to 2" size into the far corners of box cars. One man operates loader without entering car. . . eliminates hand trimming. Handles 40 to 80 TPH depending on weight and nature of material.

For complete details on the SWIVELOADER, write for a copy of bulletin 1046.

STEPHEN S-ADAMSON MFG. CO.
Tellevel—Bin Level Controls · SealMaster Ball Bearings · Car Loaders · Car Pullers · Winches · ChangeMaster Variable Speed Reducers · Sace Speed Reducers
231 RIDGEWAY AVE., AURORA, ILL.

If you write maker identify as IEN-8346

ENDS ALL SLIPPING HAZARDS *in a County of San Diego Hospital!*

PABCO GRIP-TREAD MASTIPAVE

Non-Slip—Wet or Dry

AMERICA'S No. 1 LOW COST LONG-LIFE FLOOR COVERING

"Before we installed Pabco Grip-Tread Mastipave" says D. R. Sloan, Superintendent, Edgemoor Farm, County of San Diego, California, "we had considerable trouble with fractures due to patients slipping on concrete floors. Mastipave has entirely eliminated these accidents. For this feature alone, Mastipave has paid for itself.

"The nurses and attendants speak very highly about Grip-Tread Mastipave, especially ease and comfort underfoot. Low maintenance cost is a big factor, as once Mastipave floors are waxed, very little attention need be given them."

EVERY BUILDING NEEDS PABCO MASTIPAVE

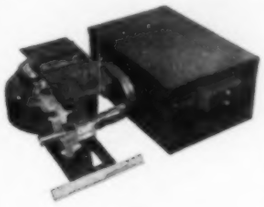
For 25 years, the Nation's blue chip industries, public carriers, hospitals, public school systems have demonstrated that Pabco Mastipave costs little, looks good, wears even better! Grip-Tread is sold in roll goods only—regular Mastipave is available in roll goods and tiles.

SEND NOW FOR THE FULL STORY OF MASTIPAVE!
(Mail to Dept. E, nearest office)
PABCO PRODUCTS, INC.
New York 16 · Chicago 54 · San Francisco 19

If you write maker identify as IEN-8347

PUMP . . Electro magnetic unit for lithium, sodium, to 1,000 deg. F.

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.



Only the metal moves

Molten metal such as sodium, sodium-potassium alloys, lithium is introduced into a stainless steel pipe in this new pump. The pipe is flattened at the point where it passes through a magnetic field set up by a transformer that forms the operating element. The transformer sets up a high current through the liquid metal and, simultaneously, a magnetic field perpendicular to that current to provide the pumping action. At 20 lb. per sq. in., the pump will move 28 gal. of molten metal per minute. A capacitor for power factor correction completes the assembly.

The transformer measures 19 by 13 by 12 inches. The capacitor measures 22 by 15 by 10 inches. The pipe through which the metal flows is 1-in. standard of No. 347 stainless steel 10 in. in length. Operation is on 230-volt ac. at 30 amperes.

If you write maker identify as IEN-8348

PLASTIC . . Clear thermosetting, plain or provided with a mirror backing

Source: HOMALITE CORP.
11-15 Brookside Drive, Wilmington 166, Del.

Sample available upon request

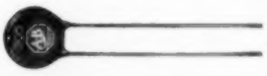
The company announces availability of its transparent thermosetting plastic known as Homalite CR-39 in sizes to 48 by 60 in. and in six thicknesses from $\frac{1}{16}$ to $\frac{1}{4}$ inch. The plastic also is available with a mirror backing in sizes to 28 by 50 in. with a machined outline to specification.

The mirror type is processed by Flexmir Metallizing Co. to produce virtually unbreakable mirrors, previously described IEN-3252-51. Both the plastic and the mirror backing are not subject to chemical attack, are not harmed by extremes of heat and will withstand rough service.

If you write maker identify as IEN-8349

CAPACITOR . . Ceramic disc design for application in electronic circuits

Source: ALLEN-BRADLEY CO.
1312 S. 2nd St., Milwaukee 4, Wis.



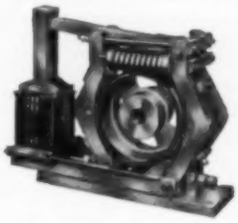
Carries marked rating

Ceramic plate is molded, sintered and a deposit of silver paste is applied to each face. The paste is heat treated to reduce it to metallic silver. Leads are soldered to the silvered surfaces and the complete new capacitor is insulated with phenolic resin. Final operation is wax impregnation to resist moisture. The new line ranges from 0.001 to 0.01 microfarads.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN-8350

TROMBETTA SOLENOID CORP.
331 N. MILWAUKEE ST. • MILWAUKEE 2, WIS.



SB-373 SHOE BRAKE
10" WHEEL, 5" Face, 450 FT.-LBS.

SB-300 LINE OF BRAKES
TORQUE CAPACITY 3 to 24,000 FT.-LBS.

AVAILABLE IN SPRING SET OR MAGNETICALLY SET WITH OIL IMMERSED AND EXPLOSION PROOF SOLENOIDS

EIGHT LINES OF SOLENOIDS, RECIPROMOTORS AND SEMOTORS

If you write maker identify as IEN-8351

Industry's Most Versatile Heat Source

CHROMALOX *Electric* Strip Heaters

EASY TO INSTALL Chromalox Strip Heaters give dependable, accurately controlled heat where and when heat is needed. They produce uniform and exact temperatures by automatic or manual controls. Low initial installation and operating costs are among their many advantages. Get details now about Chromalox Heaters for heating liquids, gases, platens, molds, moving parts, etc.

Write for Catalog 50
It describes many Chromalox Electric Heaters and tells how to apply them.

Industrial Div., EDWIN L. WIEGAND CO., 7505 Thomas Blvd., Pittsburgh 8, Pa.
See *Chromalox Electric Radiant Heaters Advertisement, Page 11*

CHROMALOX
ELECTRIC HEAT FOR MODERN INDUSTRY

If you write maker identify as IEN-8352

Here's an AMAZING BRAND NEW SAFETY SIGN that will be welcomed by Safety Men! Brady Safety Signs stick to wood, glass, metal, concrete, etc. without moistening. May be applied to any clean surface in a jiffy. No screws, nails, bolts or skilled help necessary. All you do is peel from card, apply where wanted and the sign is up to stay.

Brady Safety Signs are made of durable cotton cloth, Silicone Coated to resist dirt, grime and moisture. CONFORM TO ASA Standard Z35.1-41. Select your requirements from a complete catalog of standard safety messages. Cost only a few cents per sign. Immediate delivery. Specials made to order.

MANUFACTURERS OF SELF-STICKING PRODUCTS
MARK MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTED BELL TAPE · MARKS & LABELS
W. H. BRADY COMPANY
1655 E. SPRING STREET • CHIPPEWA FALLS, WIS.

If you write maker identify as IEN-8353

50,000-KVA INTERRUPTING CAPACITY

ALLIS-CHALMERS TYPE D-20 INDOOR OIL CIRCUIT BREAKERS

★7200 Volts — 600 Amps
★4160 Volts — 1200 Amps

THESE TIME-PROVED switchboard-type breakers meet both electric power utility and industrial requirements. They are supplied with simplified trip-free operating mechanisms for either manual or electrical operation.

Special-alloy arcing contacts, silver-plated low-resistance current carrying contacts, and *Expulsion Port* arc extinguishers provide reliable performance with low maintenance.

For general specifications, send for Bulletin 71B6023. Other A-C types start at 2500 volts, 15000 kva i.c.

A-3795

Expulsion Port is an Allis-Chalmers trademark.

ALLIS-CHALMERS
MILWAUKEE 1, WISCONSIN

If you write maker identify as IEN - 8354

3 WAY Flow "FLEX-A-SWITCH"

Flexible midrib and segmented side rails keep axles concentric at any setting to assure positive line of travel without guard rails. Can be used with curves and straight sections to distribute work in production or warehouse handling.

Furnished Through and Right only; Through and Left only or Right and Left and Through.

Write For Details

"LINE-X" ADAPTATION

METZGAR CO.

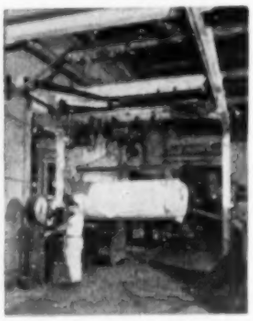
MFGRS. OF WHEEL & ROLLER GRAVITY & LIVE ROLLER CONVEYORS • POWER BELT CONVEYORS • SWITCHES • ACCESSORIES • REEL ROLLERS & END-WOOD WHEELS.

417 Douglas, N. W.

GRAND RAPIDS 4, MICH.

If you write maker identify as IEN - 8355

IT TOOK "BACKACHE" AND "HEADACHE" OUT OF HANDLING



This American MonoRail Overhead Handling System entirely eliminated all problems previously encountered. The system, consisting of 1650 feet of track, 8 carriers with electric hoists and MonoTractor drive, a power-operated crane, three track scales and the normal complement of track switches, produced the following improvements:

1. Operator fatigue was greatly reduced.
2. Traffic flowed freely—no aisle congestion.
3. No side tracking during travel—time saved.
4. Loads automatically weighed—no transfer to scales.
5. Damage to floors completely eliminated.
6. Damage to load greatly reduced.

Let an American MonoRail engineer show you how it can be done in your plant, at no obligation, of course. Send for C-1 Bulletin.

THE AMERICAN MONORAIL COMPANY

13111 Athens Avenue • Cleveland 7, Ohio

If you write maker identify as IEN - 8356

POSITIVE TOOL STEEL IDENTIFICATION

WITH THIS NEW

12-Color Chart!

Now . . . to help you eliminate costly tool steel mix-ups, Carpenter Matched Tool & Die Steel bars are painted FULL LENGTH with distinctive colors! This *practical* marking system, along with this new Wall Chart printed in colors that match the completely-painted bars, enables you to . . .

QUICKLY IDENTIFY TOOL STEELS!

REDUCE YOUR OWN MARKING COSTS!

AVOID COSTLY STOCK MIX-UPS!

SIMPLIFY INVENTORY-TAKING!

Tool Steel Selector and Identification Wall Chart—21" x 30"—printed in 12 colors! To cash in on this new color-marking system, send for your Wall Chart, now. Just mail the coupon.

THE CARPENTER STEEL COMPANY

151 WEST BERN STREET • READING, PA.

Please send me the free Tool Steel Selector and Identification Wall Chart.

NAME ..... TITLE .....

COMPANY .....

ADDRESS .....

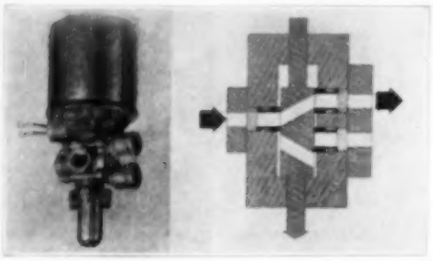
CITY ..... ZONE ..... STATE .....

(PLEASE PRINT)

If you write maker identify as IEN - 8357

VALVE . . Solenoid operated, two, three, four way, to 3,000 pounds

Source: BARKSDALE VALVES
1564 E. Slauson Ave., Los Angeles 11, Calif.



Ask for Catalog 18-2

New line of solenoid operated valves has been added to the company's Shear-Seal design. The line is characterized by hardened and lapped tubular steel sealing members. They are mounted in spring backed assembly at each port to ride on the rectangular solenoid operated slide. The seal elements maintain close contact with the slide to prevent scoring as the slide is operated.

Sizes range from ¼ to 1 in. in a two-way design for 250-lb. pressure handling liquids or air. Three sizes from ¼ to ½ in. are available for 1,500-lb. hydraulic or 1,000-lb. pneumatic pressure. Two sizes, ¼ and ⅜ in., will handle 3,000-lb. hydraulic and 1,500-lb. pneumatic pressure. The line also includes a two-way diverter valve in ¼ and ⅜ in. sizes, a three way selector valve in the same two sizes and a four-way selector valve to ½ in. for 250-lb. pressure and to ⅜ in. for the higher pressures named.

The line is completed with a dual solenoid three position four way valve for 1,500-lb. hydraulic or 1,000-lb. pneumatic pressure. The solenoid can be specified for 110, 220 or 440 volt 60 cycle ac. operation.

If you write maker identify as IEN - 8358

PIPE FITTING . . Flexible coupling made of Teflon is inert to chemicals

Source: UNITED STATES GASKET CO.
658 N. 10th St., Camden 1, N. J.

1 to 12 inches

Teflon bellows with two convolutions constitutes the flexible member between a pair of cast iron aluminum or special metal flanges in this new pipe coupling. It's a companion unit to the expansion joint previously described IEN 2018-51. The coupling absorbs vibration, compensates for slight mis-alignment in a pipe line and absorbs a small amount of axial movement either mechanical or due to thermal expansion in the line.

Pressure rating is to 25 lb. with temperature range from minus 150 to plus 400 deg. F. Each unit is supplied with suitable gasketed flanges drilled to 150 lb. ASME standards.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8359

TRUSCON COMMERCIAL PROJECTED STEEL WINDOWS

economical, efficient steel windows for a wide range of industrial buildings

These steel windows are highly versatile . . . attractive in appearance, economical in cost, easy to install, simple to screen, convenient to operate, and inexpensive to maintain.

In Truscon Commercial Projected Windows, units with vents opening outward predominate among the standard designs. However, a number of designs have vents opening inward, while others have both types of vents combined in the same unit. Ventilators do not project beyond one face of the window plane when open. Write for free illustrated literature describing the entire line of Truscon Steel Windows.

TRUSCON STEEL COMPANY

1094 ALBERT STREET

YOUNGSTOWN 1, OHIO • Subsidiary of Republic Steel Corporation

If you write maker identify as IEN - 8360

"it's easy to bend"

a new practical 32 Page

BENDING MANUAL

by the originators of "Die-less Duplicating"

This instructive and authoritative booklet will quickly prove itself indispensable wherever bending is done or is needed. It brings you a veritable gold mine of tested, authentic bending methods applicable to any rotary type bender. The proper bending technique may frequently offer a new approach to an old problem by simplifying product design and cutting production costs.

The exact methods of producing various types of bends in a wide range of materials are illustrated, step by step, with over 90 diagrams and charts together with valuable tooling suggestions.

You'll want a copy . . . Mail your request today.

O'NEIL-IRWIN

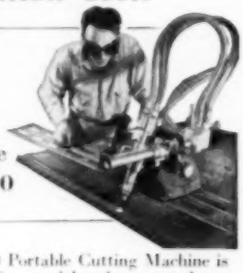
318 8th Ave. Lake City, Minn.

NOTCHERS PUNCHES BENDERS BRAKES ROLLERS SHEARS ROD & PARTERS

If you write maker identify as IEN - 8361

Speed Production . . . Cut Fabrication Costs

With this Low-Priced Oxy-Acetylene Cutting Machine OXWELD CM-30



The OXWELD CM-30 Portable Cutting Machine is for cutting straight lines and bevels on metals up to 4 in. thick. It also will cut circles from 2¾ to 96 in. in diameter, and can be hand guided for simple shapes.

Convenient to Use

The CM-30 can be operated either on lightweight track for straight-line cutting, or on the work itself for cutting circles.

Write for a descriptive folder.

LINDE AIR PRODUCTS COMPANY

A DIVISION OF UNION CARBIDE AND CARBON CORPORATION

30 East 42nd Street UCC New York 17, N. Y.

In Canada: Dominion Oxygen Company, Limited, Toronto

If you write maker identify as IEN - 8362

BOILER WATER LEVEL

With NEW YARWAY ILLUMINATOR

Get *positive* water gage readings. New Yarway illuminator spots meniscus at any point in its range. Superior penetration of blue-white light cuts through foreign deposits on gage glasses, extraneous light and dust particles. Use on new or already-installed Yarway Flat Glass Gages. Full details on request.

Yarnall-Waring Co., 122 Mermaid Ave., Phila. 18, Pa.

YARWAY

Branch Offices in Principal Cities

If you write maker identify as IEN - 8363

Puts Small Parts Shaping On A Truly Efficient Basis

Atlas

7" SHAPER

Are you shaping small parts on a big machine? The Atlas saves set-up time, and power — machines to close tolerances — and releases your big equipment for the work it's best suited to handle.

The Atlas is the only 7" shaper that is *Timken bearing equipped* — the only 7" shaper with *roller bearings on countershaft spindle, cast iron bull gear with 1" face,* and provision for *outside stroke adjustment.* Built exceptionally heavy and rugged. Has ground ways, 4 speeds, 5 reversible automatic power cross feeds. These are just the highlights of this fine shaper. Send for the catalog with full details.

SEND FOR FREE CATALOG

ATLAS PRESS COMPANY
607 NORTH PITCHER STREET
KALAMAZOO, MICHIGAN

Atlas DEPENDABLE QUALITY TOOLS SINCE 1911

If you write maker identify as IEN - 8364

88% EASIER LIFTING ON INDUSTRIAL JACKING JOBS!

WITH **SIMPLEX** HEAVY DUTY SCREW JACKS

An entirely new principle on Simplex Screw Jacks cuts friction 88% — gives you faster, easier lifting. Concave inner surface of non-slip cap rests on large chrome-moly steel ball in hard steel ball-seat. Can't flatten under load. Cap has 9 degree self-leveling float — won't slip out under load.

Other features make these Simplex jacks safer on heavy-duty jobs. Tough, malleable iron housing. Broad malleable iron base for stability. Safety peephole in base. Color indicates jack capacity. High carbon steel bars 40% stronger than ordinary bars.

21 models with 4-way head — 10 models with ratchet head. Capacities from 10 to 24 tons. Ask for new illustrated bulletin: Industrial 48.

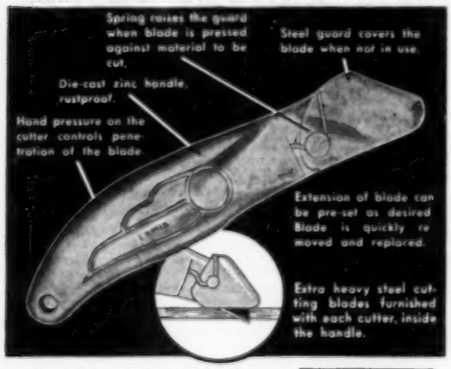
Simplex LEVER · SCREW · HYDRAULIC **Jacks**

TEMPLETON, KENLY & CO.
1012 South Central Avenue • Chicago 44, Illinois

If you write maker identify as IEN - 8365

A New Invention . . . Safe . . . Different

LEWIS Automatic SAFETY CUTTER



Here is a new patented knife that cuts swiftly, surely, safely . . . yet protects the user from injury. Always safe because the blade is guarded — always ready to use because there's nothing to adjust.

$1.50

FLASH BOX OPENER CO., Inc.
52 W. Houston St. • New York 12, N. Y.

If you write maker identify as IEN - 8366

LATHE TOOLS . . Tool post takes quick change adjustable holders

Source: ALORIS TOOL CO.
80 Fourth Ave., 8th Floor, New York 3, N. Y.

Complete set $120

Tool bits, cut-off blades, drills, boring bars are mounted in clamped position on interchangeable holders. They ride on dovetail ways on either of two faces on the square tool post making up this new assembly of lathe tools. Each holder carries an adjusting screw that can be set to position the tool. When that particular holder is removed from the tool post the tool can be ground without removing it from the holder and the assembly can be returned to the exact position it occupied on the machine.

Model A includes a 3-in. tool post, holders to take tool bits to ½ in. square, cut-off blades to ⅝-in. in height, a boring bar to ⅝-in. in diameter and a No. 2 Morse taper for a drill shank. It applies on lathes with swing to 16 inches. Holders are available for turning, threading, cut-off, drilling and boring tools.

If you write maker identify as IEN - 8367

BELLOWS . . Rolled stainless steel, pressure to 3,600 lb. per square inch

Source: CLIFFORD MFG. CO.
150-54 Grove St., Waltham 54, Mass.

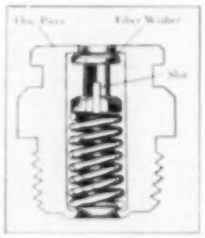
Available to specification

The company announces addition of a new stainless steel bellows to its lines of similar equipment. The new unit is particularly suited for high pressure duty. It has nominal outside diameter of $\frac{7}{16}$ inch. Pressure is to 3,600 lb. per square inch.

If you write maker identify as IEN - 8368

LUBRICATING . . Grease fitting, one piece body, guided spring check

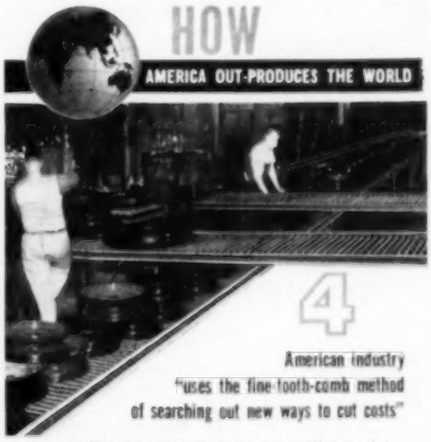
Source: UNIVERSAL LUBRICATING SYSTEMS INC.
785 Allegheny Ave., Oakmont, Pa.



Sizes at the threaded shank of this new button head fitting range from ⅛ to ½-in. pipe thread with an additional unit carrying a straight ⅝-in. 18-thread shank. Each fitting is a single piece to assure against failure in service. A fiber washer seals the check.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 8369



American industry "uses the fine-tooth-comb method of searching out new ways to cut costs"

The American manufacturer applies careful scrutiny to *every* operation in his plant. Factory men ask "are we using conveyors at every possible operation?" Write for nearest Logan engineer, and remember you get a plus-value in every Logan installation.

Logan Conveyors

LOGAN CO., 276 CABEL ST., LOUISVILLE, KY.

If you write maker identify as IEN - 8370

The process operator who uses a Speedomax Model G electronic indicator saves a lot of time in checking temperatures.

A flick of the finger connects any one of as many as 126 thermocouples to the Indicator . . . the instrument's calibrated drum whirls to the reading . . . the drum stops dead still.

Write us at 4905 Stenton Ave., Philadelphia 44, Pa., for Catalog ND46(1).

LEEDS & NORTHRUP CO.
Instruments • Automatic Controls • Furnaces

Jrl. Ad ND46-420(1c)

If you write maker identify as IEN - 8371

If you have a problem of misalignment

This new book will be a big help. It contains complete details on the entire Baldwin-Rex line of flexible couplings—Tru-Flex, Semi-Flex, Twin-Flex, Compound and Floating Shaft types. It gives you the facts on why Baldwin-Rex Couplings are truly flexible, are shock absorbing without backlash and are easy to install. The book includes all specifications, prices and horsepower tables.

Just use the coupon to send for your free copy today.

Baldwin-Duckworth Division of Chain Belt Company
384 Plainfield Street
Springfield 2, Mass. 51-408
Please send me Flexible Coupling Bulletin.
Name.....
Company.....Dept.....
Address.....
City.....State.....

BALDWIN·REX

If you write maker identify as IEN - 8372

BLAW-KNOX STEEL GRATING in the Front Rank of Industry ON ALL 5 COUNTS

OPEN SPACE • STRENGTH
LONG LIFE • CLEANNESS
SAFETY

Blaw-Knox Steel Grating is electroforged into rigid, one-piece panels, using twisted cross bars for firm footing. Bring your open steel flooring problems to Blaw-Knox for expert help. Bulletin 2365 sent on request.

BLAW-KNOX DIVISION
OF BLAW-KNOX COMPANY
2050 Farmers Bank Bldg.
Pittsburgh 22, Pa.

BLAW-KNOX *Electroforged* STEEL GRATING

If you write maker identify as IEN - 8373

If you write maker identify as IEN - 8374

If you write maker identify as IEN - 8375

If you write maker identify as IEN - 8376

VENTILATING . . Three blade impeller made of cast aluminum, 12 to 36 inches

Source: KLOPPENBORG ALUMINUM FOUNDRY CO.
209-13 Marquette St., Davenport, Iowa

List price unpolished $2.50 to $16

New size measuring 36 in. in diameter has been added to the company's line of cast aluminum three-blade impellers. The new unit rates 14,900 cfm. at 1,100 rpm. Like the others in the line it is made of a single piece of cast aluminum. It can be balanced for precision operation. The hub is bored for a specified motor shaft. Two set screws secure it in place.

If you write maker identify as IEN - 8377

PAINTING . . Metal primer dries in 10 minutes for finish coat

Source: THOMPSON & CO.
1018 Edward St., Oakmont, Pa.

Takes lacquer point, enamel

Type SP-3523H is a new iron oxide zinc chromate primer for steel and iron. It applies by spray, brush, flow coat or dip to produce a satin finish that will protect ferrous metals for several months without any finish coat. It is not recommended for use alone, however, and can be painted over within 10 min. following its own application.

If you write maker identify as IEN - 8378

TUBE . . Tygon plastic, stainless steel braid, to 300 pounds

Source: UNITED STATES STONEWARE CO.
Box 350-A, Akron 9, Ohio

A flexible connector

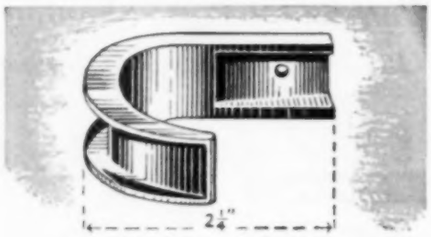
Stainless steel braid is woven on Tygon flexible plastic tube and stainless steel fittings are applied at the two ends in this new tube assembly. The plastic is chemically resistant, translucent, non-toxic, flexible.

Two sizes measure ¼ and ⅜ in. in inside diameter. Six standard formulations of the plastic are included in the line with the finished tube supplied in fitted or running lengths. The ¼-in. fittings can be applied in the field. The ⅜-in. fittings are crimped design and are factory assembled as supplied.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8379

If you write maker identify as IEN - 8380



THIS PRECISION DIE MOLDED PLASTIC PART...

was produced by our special process at a cost of

$185.70 for the first 100 pieces
9.70 for each subsequent 100 pieces

plus actual market price of material. (Actual Sample on request).

Your plastic part can be *injection or compression molded* in small lots at surprisingly low cost.

SEND YOUR PRINTS OR SAMPLE PARTS FOR QUOTATION TO

DAYTON ROGERS *Manufacturing Company*
2836 13TH AVE. SO.
MINNEAPOLIS 7, MINNESOTA

If you write maker identify as IEN - 8381

If you write maker identify as IEN - 8382

They Know Where e'er King Tractor Rules ...that

PROTO means PROfessional TOols!

There are several reasons why *all* tool experts prefer PROTO *professional* tools. User-tested designs provide strength, lightness and ease of handling. PROTO-specified alloy steels, properly forged and heat treated, insure extra life. Modern manufacturing produces accurate tools for fast, safe use. And the guarantee protects buyers. Choose the *professional* tools you need from the complete line at your PROTO dealer's store. Send 10¢ for 68-page catalog to

PLOMB TOOL COMPANY
2271S Santa Fe Ave.,
Los Angeles 54, Calif.

Wrenches • Pliers
Screwdrivers • Punches
Chisels • Sockets • Handles
Industrial Tools
Many Others.

Eastern Factory—Jamestown, N.Y.

5284
PROTO TOOLS
LOS ANGELES

If you write make identify as IEN - 8383

Assembly moves faster

Some sharp-eyed mechanics are expert at estimating the size of a plain head cap screw. But most assembly workers, and especially learners, need the screw that puts size beyond question.

P-K SIZE-MARK SOCKET HEAD CAP SCREW

The size is clearly incised on the head, can be seen at a glance. Saves time and wasted screws when sizes get mixed up, prevents errors and spoiled work. It's a good sales feature, too, because installation and repair work on your product is simpler and easier.

Only P-K offers both Size-Mark and Gear Grip in Socket Head Cap Screws. Ask for samples. Parker-Kalon Corporation, 200 Varick St., New York 14.

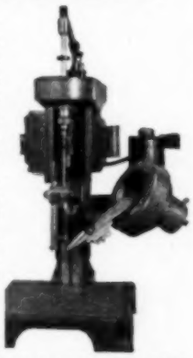
Cold-forged

PARKER-KALON • SOCKET SCREWS

If you write make identify as IEN - 8384

What's Wrong With This Picture?

THAT'S EASY There's NO DETROIT POWER SCREWDRIVER!



● Now—more than ever—speed in production is the order of the day—and D. P. S. Power Screwdrivers provide a wonderful contribution to present-day industrial needs . . . They are a "must" wherever the program calls for production assembling . . . They afford a tremendous gain over obsolete, slow hand methods. Detroit Power Screwdrivers will drive screws—any kind of screws—as fast as one a second.

● Get our Catalog NOW, describing POWER SCREWDRIVERS, MOTORIZED HOPPER UNITS, NUT DRIVERS and SPECIAL ASSEMBLING MACHINES. Write today. Also send sample assembly for production estimate.

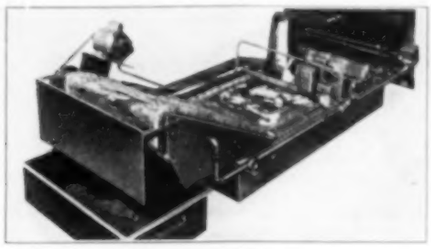
DETROIT POWER SCREWDRIVER CO.

2815 W. FORT ST. DETROIT 16, MICHIGAN

If you write make identify as IEN - 8386

FILTERING . . Conveyor type unit separates solids from coolant, solvent

Source: DELPARK CORP.
51 Industrial Ave., Lebanon, Ind.



Float controls fluid level

Endless belt of filtering material rides an open mesh endless conveyor in this new design of the company's filtering equipment, previously described IEN 2140-51. Sloping sides in the horizontal section of the conveyor form a shallow pool into which fluids such as coolants, cleaning solvents, quenching oils or lubricants employed to run-in engines, transmissions, are introduced with entrained solids.

The liquid passes through the filter sheet to the return tank over which it operates. The solids are carried up the conveyor incline to be dumped into a removal conveyor at one end. A motor drives the conveyor slowly. Sizes rate 2 to 1,000 gpm.

If you write make identify as IEN - 8387

PIPE . . Plastic insert fittings for clamp assembly in plastic pipe

Source: CARLON PRODUCTS CORP.
10225 Meech Ave., Cleveland 5, Ohio

Can join to metal

Two new fittings, an insert-type ell and a tee of similar design, have been added to the company's previously developed line of flexible plastic pipe and fittings of various designs in sizes from ½ to 6 inches. A length of pipe is cut with a saw and the new fitting is inserted into the pipe until its end rides against the fitting shoulder. A stainless steel clamp is then tightened over the pipe to draw it down onto the serrations of the fitting insert for a tight joint. The clamp is tightened or loosened with a screw driver.

Connections can be completed in about two minutes. The new fittings and those previously developed are molded thermoplastic. They are not subject to rot, corrosion or electrolytic attack and are light in weight. They are suited for pressures to 120 lb. in the ¾-in. size and temperature to 120 deg. F. The largest 6-in. size is rated to 75 lb. at 120 deg. F. Application is with the pipe previously described IEN 5498-52. Estimated bursting pressure ranges from 540 lb. per square inch on the ½-in. size to 150 lb. on the 6-inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write make identify as IEN - 8388

BOOST PRODUCTION

COBURN

OVERHEAD CONVEYING EQUIPMENT

Meet today's need for maximum plant production, increased efficiency and faster handling of materials with Coburn Overhead Conveying Equipment. It gives you unobstructed floor space, requires very little headroom, makes it easy to spot work directly over machines. Loads up to 3000 lbs. handled by hand chain or electric hoist; power-operated equipment also available.

For additional information write to Sales and Engineering, 56 Sterling St., Clinton, Mass., or consult your classified telephone directory. Write today for catalog #220.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

COBURN PRODUCTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

If you write make identify as IEN - 8389

Here's help for you on... COMPOUND MELTING

You specify the size, shape and heat you require in a compound melting tank. You name the accessories . . . valves, lids, legs, controls . . . you need. You determine the hourly or daily capacity your melting tank must produce . . . together with allowable tolerances . . . and all other essentials.

Then let Sta-Warm go to work for you. Shortly you will receive a specific proposal to match every item you specified, a plan that is highly efficient because it will be based on the time-tested "Sta-Warm Method" of designing and building compound melters for an almost infinite variety of applications over a period of 30 years.

Why not write today for a brief resume of the "Sta-Warm Method". No obligation. *Address . . .*

View showing how heating element covers entire sidewall and bottom of typical Sta-Warm tank.

Sta-Warm ELECTRIC CO.
560 N. CHESTNUT ST., RAVENNA, OHIO

If you write make identify as IEN - 8390

NEED COPIES?

MODERN MIMEOGRAPHING—New equipment and supplies for the fast production of copies on a wide variety of paper and card stocks. A. B. Dick mimeograph products are for use with all makes of suitable stencil duplicating products.

MODERN OFFSET—A. B. Dick lithograph direct image plates and masters provide for (1) longer runs with sharp definition—(2) easier corrections—(3) more successful filing—(4) marked superiority in resistance to fingerprints.

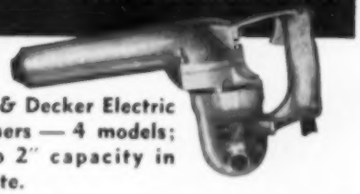
MODERN SPIRIT DUPLICATING—A. B. Dick CLEEN-SEAL master sets and spirit carbons guard against stains and smudges. Available in a variety of sizes for long, medium and short runs. Five brilliant colors—purple, red, green, blue and black.

Write Dept. IEN852 *for full information—or call the A. B. Dick Distributor listed in the classified section of the phone book.*

A·B·DICK
THE FIRST NAME IN DUPLICATING
A. B. Dick Company • 5700 Touhy Avenue • Chicago 31, Illinois

If you write make identify as IEN - 8391

NEED A HAMMER?
Switch to BLACK & DECKER Power!



Black & Decker Electric Hammers — 4 models; ½" to 2" capacity in concrete.

BLACK & DECKER ELECTRIC HAMMERS pack plenty of punch for high-speed drilling and channeling in concrete, stone or brick; doing light demolition; removing rust and scale from metal; driving spikes; scuffing concrete surfaces. Deliver thousands of hammer blows per minute. Light weight, husky, completely self-contained, no transformers needed. See your nearby B&D Distributor. Write for free catalog to: THE BLACK & DECKER MFG. CO., 615 Pennsylvania Ave., Towson 4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL

Black & Decker
PORTABLE ELECTRIC TOOLS

If you write maker identify as IEN - 8392

- To Electronic Length Sorter
- Single File
- In Oriented Position
- Automatically

SYNTRON "Vibra-Flow"

PARTS FEEDERS

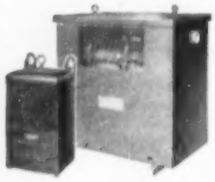
Get controlled vibration feed you want medium or large parts . . . single file . . . oriented position . . . at variable rates . . . without damage . . . to your inspection and counting devices and other automatic processing equipment.

Catalog data upon request. Or send details of your problem along with sample parts to . . .

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 8393

Wagner Dry-Type Transformers



. . . safe, efficient power distribution for your plant

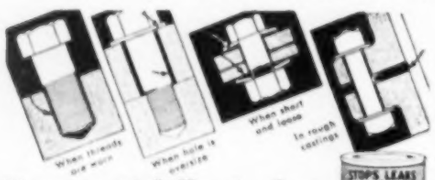
Wagner Dry-Type Transformers solve the problem of bringing the right voltage to load centers economically, dependably—yet with complete safety. They can be used for many purposes, such as insulating a lighting circuit from a power circuit, obtaining a 240/120 volt 3-wire circuit from a 2-wire system, operating low-voltage portable lamps, and supplying machine tool lighting from the power circuit.

Wagner Dry-Type Transformers are economical—they eliminate long runs of secondary copper . . . they provide steady voltage with minimum line losses . . . they are light in weight and compact—inexpensive to install and easy to move if necessary. They are safe to use—without fireproof vaults or other special protection—even where fire hazards are present. Write for a copy of Bulletin TU-90. It gives many suggestions that you can use.

Wagner Electric Corporation
6414 PLYMOUTH AVENUE
ST. LOUIS 14, MO.

ELECTRICAL EQUIPMENT AND AUTOMOTIVE BRAKE PRODUCTS

If you write maker identify as IEN - 8394



How to Solidly Anchor LOOSE BOLTS

Bolts with worn threads—undersize bolts in oversize holes—bolts passing through thin walls—bolts holding ill-fitting cast flanges—all can be tightened firmly with quick-setting Smooth-On No. 1 Iron Cement. Use it too to lock nuts tight, and to cover and protect countersunk bolt heads in metal or wood. These repairs stay tight because Smooth-On expands slightly as it hardens. Buy Smooth-On No. 1 in 7 oz., 1 lb., 5 lb., or 100 lb. size and keep it handy. If your supply house hasn't Smooth-On, write us.

FREE REPAIR HANDBOOK

40 Pages filled with time-saving, money-saving repairs on plant, shop and home equipment made with No. 1 and other Smooth-On Cements. Drop us a line for YOUR free copy.

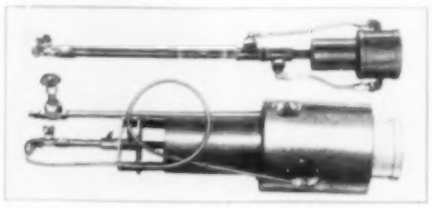
SMOOTH-ON MFG. CO., Dept. 1
570 Communipaw Ave., Jersey City 4, N. J.

Do it with **SMOOTH-ON**
THE IRON REPAIR CEMENT OF MANY USES

If you write maker identify as IEN - 8395

HEATING . . Vaporizing burners designed for liquid petroleum gas

Source: MUTUAL LIQUID GAS EQUIPMENT CO.
3606 W. Imperial Highway, Inglewood, Calif.



Particularly for equipment application

Type LVB-2 with a 2-in. head and Type LVB-6 with a 6-in. head are two new vaporizing burners to handle butane propane liquid gas. Ratings are to 280,000 and 3,500,000 btu. per hour. Lengths are 25 and 36 inches. Weights are 7 and 65 pounds.

The gas in liquid form is controlled by a needle valve to flow into a jacketed chamber enclosing the burner. It is preheated in this chamber and vaporized to pass to a gas-air mixer from which it issues into the combustion chamber.

If you write maker identify as IEN - 8396

RUBBER . . Synthetic compound will seal hot synthetic lubricants

Source: WESTERN FELT WORKS
4135 Ogden Ave., Chicago 23, Ill.

Samples and data upon request

The company announces development, through its Arcadia Synthetic Products Division, of a new synthetic rubber compound for use with synthetic lubricants at high temperature. Under these conditions ordinary rubber is quickly destroyed. The compound is known as No. 76243. It can be supplied in molded and extruded shapes, lathe cut, washers and die cut parts. It is particularly suited for application to seal synthetic greases against leakage.

If you write maker identify as IEN - 8397

SPRAYING . . Cone pattern nozzle carries 1/4 to 5 1/4 inch orifice

Source: SPRAYING SYSTEMS CO.
3208 Randolph St., Bellwood, Ill.

A series of large sizes have been added to the company's Full-Jet line of spray nozzles to include units with pipe connections ranging from 1 1/4 to 10 in., with orifice from 1/4 to 5 1/4 inches and free passage through the unit ranging from 1/4 to 2 5/8 inches. Water handling capacity is 7.2 to 1,550 gpm at 10 lb. pressure. Overall height is 3 1/2 in. on the smallest, 20 3/4 in. on largest.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8398

Economy ELEVATING Table

For feeding sheet stock, supporting fabricated frames, handling heavy dies, or as a portable work bench. All four sides are accessible to the user.

Lifting and lowering load is hand operated. Crank handle can be attached and operated from either end, with two speed lifting. Self locking worm and screw elevating mechanism holds work at any height without danger of falling. A foot operated floor lock holds table stationery when in use.

ELEVATING TABLE EXTENDED

Capacity of 2,000 lbs. Dimensions—top 24" x 36", min. height 24", max. height 42".

PRICE F.O.B. CHICAGO $210.80

ECONOMY ENGINEERING CO.
4502 W. Lake St.,
Chicago 24, Ill.

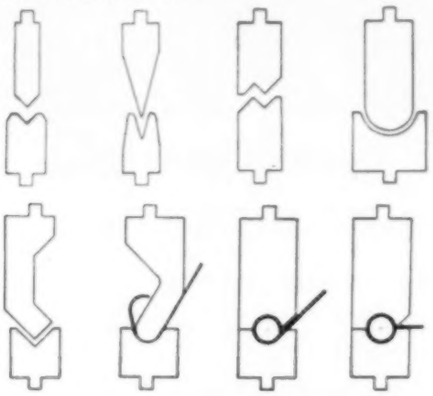
If you write maker identify as IEN - 8399

PRESS BRAKE FORMING DIES

PROMPT DELIVERY

Any Metal—any gage—to fit any make of machine

Here are a few examples:



RAFTER MACHINE COMPANY, INC.
SINCE 1917
249 Stephens Street Belleville 9, N. J.
COLD ROLL FORMING MACHINES AND GANG SLITTERS

If you write maker identify as IEN - 8400

Keep these dangerous stresses out of piping and equipment

- ✓ VIBRATION
- ✓ MISALIGNMENT
- ✓ FLEXATION
- ✓ EXPANSION and CONTRACTION

with **CMH FLEXIBLE METAL HOSE**

Motion or misalignment in rigid piping presents serious problems to plant operating men. Piping subject to these stresses is in potentially dangerous condition. But in most cases, these problems can be solved economically, dependably and safely by using CMH Flexible Metal Hose.

The CMH Hose Design Guide gives full information—write for your copy, today.

CHICAGO METAL HOSE
DIV. FLEXONICS CORPORATION
1333 S. Third Avenue, Maywood, Illinois

Manufacturers of flexible metal hose and conduit, expansion joints, metallic bellows and assemblies of these components.

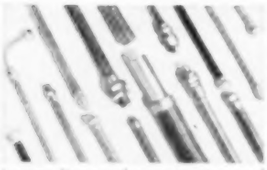
In Canada: Flexonics Corporation of Canada, Ltd., Brampton, Ontario

If you write maker identify as IEN - 8401

If you write maker identify as IEN - 8402

FLEXIBLE CONNECTORS

Complete line is offered, and you can get special assemblies made up to meet special design needs



The regular line of American Flexible Metal Connectors is complete enough to meet almost every design problem. But in case you have a particular need, American will make up special connector assemblies for you. Because these connectors are both *flexible* and *metal*, they are ideal for carrying air, dust, gases, oil, steam, water, etc. They are useful to connect moving lines, protect wiring or delicate tubing, and to make assemblies in close quarters. For high pressure use they come with wire braid covering, and, for added abrasion resistance, are covered with a flexible reinforcing armor.

• • • American Flexible Metal Connectors are made in a variety of alloys and hose patterns, in long lengths or ready-to-use assemblies, complete with fittings attached. They have many different uses—from flexible oil can spouts to air-borne components of jet aircraft engines.

AN EXCEPTIONALLY INFORMATIVE BOOKLET (SS-50) is offered by the manufacturer—describes uses. Write to The American Brass Company, American Metal Hose Branch, Waterbury 20, Conn.

wherever connectors must move ANACONDA

American flexible metal hose and tubing

If you write maker identify as IEN - 8403

CHROMALOX gives you the *LOW COST* answer for

VARIABLE HEAT

NON-BREAKABLE INFRARED

SAFE OPERATION

CHROMALOX ALL-METAL *Electric* RADIANT HEATERS

The new and improved CHROMALOX heating principle gives ALL infrared heat advantages: high heat intensity, "color blind" infrared radiation, heat that's infinitely variable! You get more satisfactory results at reduced costs in baking, drying, curing, preheating and similar uses with CHROMALOX Radiant Heaters.

Write for FULL DATA

Tell us what you want to do with infrared heat and we'll send you data sheets covering your needs.

Radiant Heater Div., Edwin L. Wiegand Co., 7505 Thomas Blvd., Pittsburgh 8, Pa.

CHROMALOX

ELECTRIC HEAT FOR MODERN INDUSTRY

See Chromalox Electric Strip Heaters Advertisement, Page 5

If you write maker identify as IEN - 8404

EASY TO INSTALL . . . DEPENDABLE IN SERVICE

PHILADELPHIA GEARMOTOR

• This self-contained drive is extremely compact. Single, double and triple reductions are available. Range of speeds: 780 RPM through 7.5 RPM. Motor rating from 1 HP through 60 HP, Ac or Dc. Conforms to recommended standards of A.G.M.A. and N.E.M.A. Full details in Catalog GM-48. Write on your business letterhead for a copy.

PHILADELPHIA GEAR WORKS, Inc.
ERIE AVENUE AND G STREET • PHILADELPHIA 34, PA.
NEW YORK • PITTSBURGH • CHICAGO • HOUSTON • LYNCHBURG, VA.

If you write maker identify as IEN - 8405

DRIVE . . Reversing dc. motor, generator and electronic controls

Source: RELIANCE ELECTRIC & ENGINEERING CO.
1111 Ivanhoe Road, Cleveland 10, Ohio

On a draw-cut shaper

New dc. motor with its associated generator and electronic controls constitute a new reversing drive in sizes from 1 to 500 hp. The motor is based upon the company's Type-T heavy duty design with a small diameter armature for low inertia and force ventilation provided by air supplied by an integrally mounted blower, previously described IEN-8184-52.

Operating control centers in two electronic circuits that impose, briefly, several times normal voltage on both the motor armature and the field. These circuits are regulated within predetermined current limits to maintain maximum reversing torque on the motor. Low-voltage fields are employed on both the motor and the generator to assist the forcing effect of the electronic circuits. The generator has one field rating 25 volts. The motor employs two fields, one supplied from a constant potential exciter at 110 volts, the second supplied by an electronic exciter the voltage of which is determined by the size of the motor.

If you write maker identify as IEN - 8406

PRINTING . . Belt fed machine exposes, develops, dries and delivers

Source: CHARLES BRUNING CO.
123-27 North St., Teterboro, N. J.

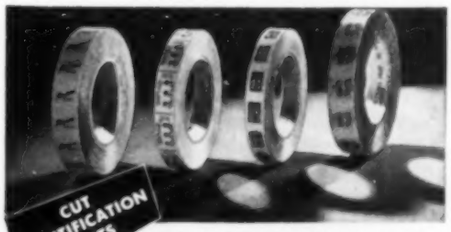
About 2 cents per square foot of copy

Width capacity is to 20 in. for this new Model-14 Copyflex machine. It represents further development of the Model 30, previously described IEN-5652-52. It is intended particularly for office application beside an operator's desk as shown.

The machine operates on 110-volt 60-cycle ac. Copies are made on Copyflex sensitized paper, cloth or film fed in with the translucent original. Operation can be carried on in usual office light without danger of exposing the paper. No fume removal connection is required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8407



CUT IDENTIFICATION COSTS

with BRADY Printed Self-sticking ROLL TAPES

SAVE OPERATORS TIME • ELIMINATE WASTE MOTIONS • GET QUICK, POSITIVE IDENTIFICATION

Label parts, pieces, assemblies, materials, etc., with Brady Printed Tape. Sticks to any clean, dry surface without moistening. Applied by hand or automatic dispenser.

Any wording, numbers, letters, trademarks or symbols printed to your order on cellophane, acetate blue, paper or cloth tapes to fit your job requirements.

Choose from a variety of standard colors, roll lengths and widths.

WRITE FOR Free SAMPLES AND USEFUL CATALOG

DISTRIBUTED IN 125 PRINCIPAL CITIES
MANUFACTURERS OF SELF-STICKING PRODUCTS

SIGN MARKERS · PIPE MARKERS · SAFETY SIGNS · PRINTED ROLL TAPE · INDICATORS & STENCILS

W. H. BRADY COMPANY
1670 E. SPRING STREET • CHIPPEWA FALLS, WIS.

If you write maker identify as IEN - 8408

One of our F-5 machines bundling Dr. Lyon's Tooth Powder in plant of R. L. Watkins Co.

You save MANY WAYS with high-speed machine bundling

A bundling machine repays its cost within an amazingly short time . . . Very little supervision is required . . . As many as 24 bundles of a dozen, half-dozen or fewer items are turned out per minute . . . Sturdy, low-price kraft paper is used, with end-seals applied automatically. One compact roll of paper replaces hundreds of bulky cartons. These bundles weigh less—cost less to ship. And they're easier to store.

We have designed several bundling machines for a variety of needs. To find out how great your savings can be, contact our nearest office.

Write for literature

• WRAPPING DIVISION •

PACKAGE MACHINERY COMPANY
SPRINGFIELD, MASSACHUSETTS
NEW YORK CHICAGO BOSTON CLEVELAND ATLANTA DALLAS DENVER LOS ANGELES SAN FRANCISCO SEATTLE VANCOUVER, WASH. TORONTO MEXICO D.F.

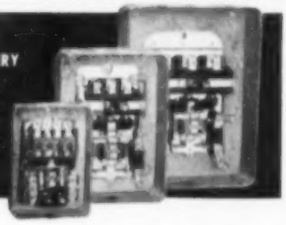
If you write maker identify as IEN - 8409

WARD LEONARD

NOW! Motor Starters

IN STOCK FOR IMMEDIATE DELIVERY

Open types also in stock for machine tool and panel builders.



Order now from Ward Leonard's line of across-the-line-type non-reversing a-c magnetic starters. Four standard sizes: 0, 1, 2, 3.

Compact unit construction. Complete accessibility of parts. Simplified installation and inspection. High current interruption capacity. Thermal overload protection. Long, trouble-free operating life. Open or enclosed type.

Write for Starter Bulletin 4110. WARD LEONARD ELECTRIC CO., 33 South Street, Mount Vernon, N. Y. Offices in principal cities of U. S. and Canada.

WARD LEONARD ELECTRIC CO.
Resistor Engineered Controls Since 1892
RESISTORS • RHEOSTATS • RELAYS • CONTROL DEVICES

If you write maker identify as IEN - 8410

SLASH CLEANING and COOLING COSTS with REX FLAT SPRAY NOZZLES

• The hard-hitting flat sheets of water from Rex Flat Spray Nozzles do a top-notch job of cleaning or cooling a wide range of products—and at practically no cost.

Of simple, one-piece construction, they require no adjustment . . . assure a flat, uniform spray of maximum impact force. The only operating cost is for water, and consumption is very low.

Send for our descriptive booklet, using coupon below.

CHAIN BELT REX COMPANY **FLAT SPRAY NOZZLES**

Chain Belt Company
4675 W. Greenfield Ave., Milwaukee 1, Wis.
Please send me a copy of Bulletin 50-38 50-211

Name.....
Company..... Dept.....
Address.....
City..... State.....

If you write maker identify as IEN - 8411

KNOCKOUT BLOW!

DOWN time for your machinery is OUT time on your profit statement. To keep operation at peak efficiency, keep Dirt, Dust, and Grit out of every crack and crevice. Knock 'em out with a CLEMENTS-CADILLAC blower-suction cleaner—regularly.

Eligible under C.M.P. regulations.

SAVE TIME · MONEY PREVENT DAMAGE TO MACHINERY WITH THE . . .

Made in 5 models with attachments for every cleaning job.

PORTABLE COMBINATION BLOWER-SUCTION CLEANER

CLEMENTS CADILLAC

CLEMENTS MFG. CO.
6620 S. NARRAGANSETT AVE., CHICAGO 38, ILL.

ASK YOUR MILL SUPPLY DEALER OR WRITE US FOR DATA

If you write maker identify as IEN - 8412

CUT COSTS . . . FASTEN "ON THE DOUBLE" with the Chicago "214" DOUBLE RIVET SETTER

The "214" automatically feeds, inserts and clinches two rivets at a time . . . with speed that may mean a big saving in your fastening costs.

14" throat makes large assemblies easy to handle. For tubular rivets as large as 5/64", or less in length. Quick Change Rotary Type Hoppers and Raceways permit a 5-minute changeover to rivets of different size. Adjustable anvils and riveting centers add to its versatility.

Ask us how the "214" can help you cut costs. Send a sample of your problem assembly (or blueprint) for a free fastening analysis.

FREE CATALOG contains valuable engineering information and rivet specifications plus illustrated descriptions of 26 Chicago Automatic Rivet Setters.

Chicago Rivet & MACHINE CO.
9602 West Jackson Boulevard, Bellwood (Chicago Suburb) Illinois
Branch Factory: Tyrone, Pa.

If you write maker identify as IEN - 8413

Reduce Machine Noise and Vibration 60%-85%!

ANCHOR MACHINES ON UNISORB®

Yes, and UNISORB machine-mounting requires no bolts . . . no lag screws . . . no destructive floor-drilling. It's the modern way to anchor machines . . . saves installation costs . . . lasts for years and years with no maintenance . . . easy to replace . . . prevents vibration damage to floors, buildings and machinery.

Today, write for your free copy of "Why It Pays To Anchor Your Machines with UNISORB."

The FELTERS Company
210-1 SOUTH STREET
BOSTON 11, MASS.

If you write maker identify as IEN - 8414

TRUCK . . Utility platform design, motor drive, speeds to 6 miles per hour

Source: ROCKY MOUNTAIN STEEL PRODUCTS INC.
1362 Wall St., Los Angeles 15, Calif.

Long loads can overhang

The company announces recently improved design of its Model-SP utility platform truck for miscellaneous load carrying between plant departments. Power is supplied by a 24-volt battery for a speed range between 1 and 6 mph. or by a 32-volt battery for maximum speed to 8 mph. There are four speeds in forward or reverse. Weight without the battery is about 700 pounds.

The truck measures 36 in. in width by 96 in. in overall length. It is mounted on a 53½-in. wheel base for operation in 80-in. intersecting aisles. Platform length behind the operator's seat is 61½ inches. Height above the floor is 18 inches. Standard equipment includes hydraulic operating and parking brakes and Square-D electric-contactor control for the motor.

If you write maker identify as IEN - 8415

PROTECTING . . Dynel fabric shirts, trousers, coveralls for plant workers

Source: CHEM-WEAR INC.
3 Boston Post Road, Darien, Conn.

Service tested for six months

Matching shirts and work trousers, coveralls and aprons are included in a new Chem-Weave line of protective worker clothing. The woven fabric is a mottled gray shade to hide staining, resist discoloration and keep the clothing in serviceable appearance. The fabric will withstand repeated industrial laundering. It dries smooth, does not require ironing. The weaving process employing the Dynel yarn results in an excellent factor of air flow for worker comfort. Protection is provided against contact by acids, caustics, mildew.

If you write maker identify as IEN - 8416

DRIVE . . Flexible shaft coupling, geared design, ¾ to 6½ in. bore

Source: MICHIGAN TOOL CO.
7169-73 E. McNichols Road, Detroit 12, Mich.

Lubricant sealed in

Identical hubs with integral gear teeth are sealed against lubricant leakage by neoprene rings and are held in place by two snap rings in the internally toothed sleeve of this new Cone-Drive flexible shaft coupling. Hubs and sleeve are forged steel. The line includes 22 bore sizes from ¾ to 6½ in. with drive rating at 4 to 550 hp. Intended application is on a horizontal shaft. The coupling permits angular misalignment to three degrees and off-set to 1/16 inch.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8417

Bulletin 646 Manual Transformer-Type Reduced Voltage Starter

with Nema delay switchover

Bulletin 646 Reduced Voltage Starter

Here is the first outstanding improvement in manual transformer-type starters in twenty-five years. Bulletin 646 motor starters have an adjustable time delay which prevents careless operators from switching the motor too quickly to full running voltage. It is available in four sizes from 5 hp. 220-440-550 v. to 250 hp. 440-550 v. for 25, 50, and 60 cycles. Write for descriptive bulletin. Allen-Bradley Company, 1312 South Second Street, Milwaukee 4, Wis.

ALLEN-BRADLEY QUALITY MOTOR CONTROL

If you write maker identify as IEN - 8418

1 gasket or 1,000,000

Garlock has the facilities to die cut, hand cut, mold, or machine all sizes and shapes of gaskets in *any quantity* to your blueprint specifications or template.

Some of the most widely used Garlock gasketing materials are:

- Compressed Asbestos with rubber, neoprene or Buna-N binder
- Woven Asbestos
- Rubber — plain, cloth inserted or wire inserted
- Neoprene — plain or cloth inserted
- Buna-N
- Thiokol — plain or cloth inserted
- Silicone — plain or cloth inserted
- "Teflon"
- Vegetable Fibre
- Cork-Fibre — glycerine treated or synthetic-rubber impregnated
- Asbestos-metallic
- Leather

Let us help you solve your gaskering problems—write today.

THE GARLOCK PACKING CO.
PALMYRA, NEW YORK
In Canada: The Garlock Packing Company of Canada Ltd., Toronto, Ont.

GARLOCK

If you write maker identify as IEN - 8419

LIKE AN ATOM-IC EXPLOSION

Just 1/32" (pinhole size) faucet leak

MUSHROOMS into ATOMIC WASTE

of approximately 95,000 gallons of water yearly—costing:

$24.14

@ $1.90 per M cubic feet

If a hot water faucet, then actual FUEL WASTED heating 95,000 gallons costs approximately:

$59.04 if gas (6679 cu. ft.)
$91.08 if oil (792 gals.)
$84.41 if gas (84,411 cu. ft.)

Above figures authenticated by Hackensack Water Co. and American Gas Association.

STOP this needless WASTE during today's MATERIAL and MANPOWER shortages with "SEXAUER" "Easy-Tite" that outwear ordinary faucet washers 6-to-1, thus SAVING labor on 5 REPEAT repairs, PLUS water and fuel, while prolonging the life of SCARCE Extras.

PAT'D.

"EASY-TITE" Faucet washers

. . . a modern laboratory triumph, are compounded from du PONT NEOPRENE (tested up to 300° F.) instead of rubber—to withstand DESTRUCTIVE HEAT common in present-day superheating water systems—that formerly broke down washer's structure.

Built like a tire with fabric re-inforcement

they resist the grinding, closing squeeze that SPLIT and MUSH ordinary washers out of shape . . . causing LEAKS.

Through combining NEOPRENE and FABRIC RE-INFORCEMENT they OUTWEAR ordinary washers 6-to-1 on hot or cold FAUCETS—thus you slash water, fuel and labor costs.

THE NEW "SEXAUER" CATALOG,
Edition G, just out pictures over 2500 TRIPLE-WEAR plumbing REPAIR parts and Pat'd. Precision Tools. It's today's accepted buying guide for discriminating purchasing and maintenance personnel among thousands of top PLANTS, INSTITUTIONS and GOVERNMENT AGENCIES that rely on SEXAUER repair materials. Send for your copy today!

Then too, there's a SEXAUER TECHNICIAN within quick call from coast-to-coast, who offers a special SURVEY service that sets up a schedule of the exact replacement parts required for your particular plumbing fixture regardless of make or age and without obligation.

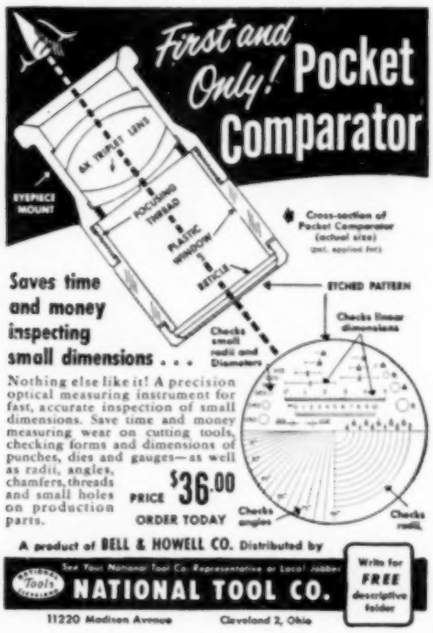
A postcard will bring him and your NEW Catalog promptly.

J. A. SEXAUER MFG. CO., INC., Dept. S-82
2143-55 Third Avenue, New York 51,

as advertised in THE SATURDAY EVENING POST

SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

If you write maker identify as IEN - 8421



If you write maker identify as IEN - 8422

for easy, on-the-spot, accuracy . . .

The chuck guard on the new Stanley Electric Drills makes it easier for the operator to spot and hold the drill exactly where he wants it. By grasping the chuck guard, as pictured above, operator has complete two-hand control, yet is fully protected when drill is running. Guard does not interfere with chuck adjustment, and can easily be removed as desired. This important feature is found on all the new Stanley Electric Drills shown below. See them at your dealer's or write for information to: Stanley Electric Tools, 414 Myrtle Street, New Britain, Connecticut.

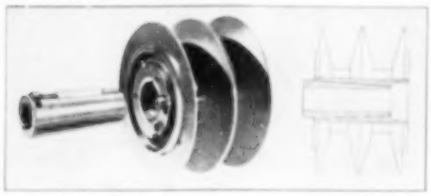
NEW STANLEY ELECTRIC DRILLS. Plenty of surplus power for heavy-duty drilling. Available in all the standard voltages, A.C. or D.C. Two models.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

If you write maker identify as IEN - 8424

DRIVE . . Variable pitch sheave, mounts on two split tapered sleeves

Source: ALLIS-CHALMERS MFG. CO.
909 S. 70th St., Milwaukee 14, Wis.



Illustrated details in Bulletin 2057811

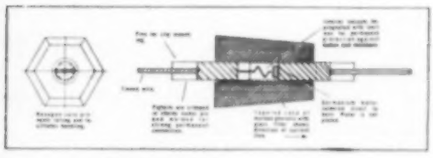
Magic-Grip is a new double sleeve design in the company's Vari-Pitch line of V-belt sheaves. One sleeve fits inside the other and the two apply in the sheave bore in connection with a pair of screws, one for tightening and the other for adjusting. The inner sleeve contracts on the shaft and the outer sleeve expands inside the sheave to hold the flanges in position for a given pitch adjustment. Torque is transmitted by keys in the two sleeves. Pitch can be changed by turning the adjusting screws while the locking screw is in free position.

A feature of the design is that the sheave can be assembled on a motor shaft with the adjustments either at the outside end or toward the motor to meet space limitations. Five sizes in the line range in pitch diameter from 4 to 7½ in. in the smallest unit and from 7¼ to 12 in. in the largest one. Each is available in 1, 2 or 3 grooves for motors ranging from 1½ to 30 hp. and for operation at 865 to 1,750 rpm.

If you write maker identify as IEN - 8425

ELECTRONIC PART . . Crystal diode hermetically sealed in plastic case

Source: RADIO RECEPTOR CO.
251 W. 19th St., 5th Floor, New York 11, N. Y.



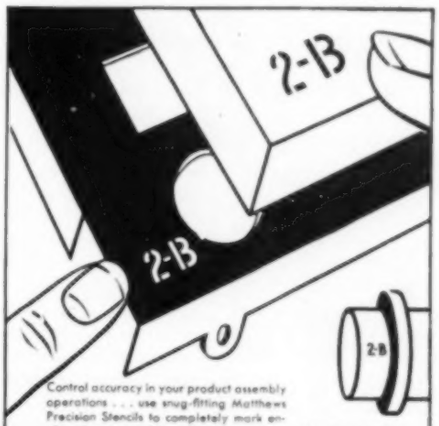
Operates without power supply

The company announces start of production of a new line of germanium diodes for use in the place of electronic tubes in various types of electronic equipment. It is prepared to supply a range of types meeting Army-Navy requirements and also commercial units for general application. Each assembly is in a glass reinforced plastic case, hexagon in section and tapered between the two ends as a means to identify direction of current flow.

Assembly consists of a germanium wafer soldered to a nickel alloy cathode pin and a tungsten whisker welded to a nickel alloy anode pin. Both are assembled into the plastic case and the complete assembly is then positively impregnated with a polyethylene compound by a combination of vacuum and pressure. Mounting is by clips on the terminal pins or by soldering the pig tail leads that are welded into the pins.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 90

If you write maker identify as IEN - 8426



Control accuracy in your product assembly operations . . . use snug-fitting Matthews Precision Stencils to completely mark engineering assembly details, codings, numbers, etc., on metal stampings, frames, electronic chassis and other assembly components. Eliminate errors, speed production, simplify assembly, effect economies . . . with Matthews Precision Stencils.

For complete information and literature

MAKES ASSEMBLY EASY...BUT MORE IMPORTANT, MAKES IT SAFE!

Write to JAS. H. MATTHEWS & CO.
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CLIFTON, N. J. WESTERN PHILADELPHIA CHICAGO

If you write maker identify as IEN - 8427

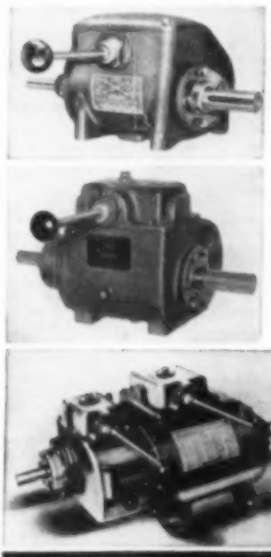

plate or platform mounting

9000-B (1-5 H.P.) 5 H.P. capacity with input speed of 900 r.p.m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

8100-B (5-10 H.P.) 10 H.P. capacity with input speed of 900 r.p.m. **Gear ratios:** 1:1 - 2:1 - 3:1 - 4:1. Special ratios at extra cost.

9300 (30 H.P. capacity with input speed of 900 r.p.m.) 8 speed Changes in Geometric Progression of 1.29 (Total reduction of 6:1).

Send for catalog and complete information

up to 50 h. p.
WESTERN TRANSMISSIONS
WESTERN MANUFACTURING CO. 1145 SECRETAN, DETROIT, MICHIGAN

If you write maker identify as IEN - 8428

If two or more people must strain or heft to handle materials for you . . .

you need this improved YALE hand lift truck

• WRESTLING heavy crates, cartons, boxes, drums and other bulky materials tires workers—cuts efficiency—raises handling costs for you. A modern YALE Hand Lift Truck will speed all your handling jobs . . . eliminate rehandling . . . and quickly pay its low cost in time and manpower saved.

Select your new, easier-rolling YALE Hand Lift Truck from a complete line of Single or Multiple Stroke Mechanical, and Hydraulic Lift models. Get the best solution to your special handling problems . . . get quality performance that makes the YALE name first in materials handling equipment of every kind. Write for free illustrated catalog today. Or consult your local Classified Directory for the YALE Representative nearest you.

Yale hand lift trucks help in all these and many other places today

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Appliance Dealers
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Please send me your free illustrated catalog on the YALE Hand Lift Truck.

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YALE GAS AND ELECTRIC INDUSTRIAL TRUCKS • YALE HAND AND ELECTRIC HOISTS
YALE WORKSAVERS • YALE POL-LIFTS

If you write maker identify as IEN - 8430

Rolling Steel Doors

Manually • Mechanically • Power Operated

No other type of door offers as many desirable features as a good Rolling Steel Door . . . . open or closed, they occupy no usable space inside or outside the opening. All metal construction assures permanence and a lifetime of continuous trouble-free service. Push-button (controlled vertical roll-up action provides the quick, timesaving door operation demanded today by all industrial and commercial concerns. When you buy Mahon Rolling Steel Doors you get the latest developments in doors of this type — comparison will convince you. See Sweet's File for complete information, or write for Catalog No. G-52.

THE R. C. MAHON COMPANY
Detroit 34, Michigan • Representatives in All Principal Cities

MAHON

If you write maker identify as IEN - 8431

Deep in the Jungles "way back when"— Apes made the FIRST "Rivetless Chain"

Apes have long been known to form "rivetless" chains. By the simple coupling process of linking tails they swing themselves out to cross streams and gorges.

Drop-Forged Rivetless Chain
another FIRST by
JERVIS B. WEBB COMPANY

Proved by years of dependable service is the Drop-Forged Rivetless Chain, first developed by Jervis B. Webb Company for Trolley Conveyors. Simple and strong, it is cheaper and lighter per unit of ultimate strength than any other type of conveyor chain. It can be installed or removed by unskilled labor. Having no rivets, welds or bolts, it requires no special or joining links and may be disconnected at any point, yet it is so designed that it cannot become disconnected while in service.

The No. X458 Chain (illustrated below) is completely interchangeable with the Webb FIRST—the original No. 458 Chain designed in the early Twenties by Mr. Jervis B. Webb. X458 Chain has the improved webbed side link which substantially stiffens it, preventing telescoping.

Need Conveyor Chain?
We're In Position To Make
IMMEDIATE DELIVERY NOW
X458 Drop-Forged Rivetless Conveyor Chain

Improved production and material conditions have enabled Jervis B. Webb Company to stock an adequate supply of X458 Chain—ready for immediate delivery—to meet your conveyor system needs.

CONVEYOR ENGINEERS AND MANUFACTURERS
JERVIS B. WEBB COMPANY
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OFFICES IN PRINCIPAL CITIES
FACTORIES IN DETROIT . . . LOS ANGELES . . . HAMILTON, ONT.

If you write maker identify as IEN - 8432

STOP DUST

***INSTANTLY* with DUSTKOP**

DUSTKOP 1400 cfm.

DUSTKOP 3600 cfm.

300 cfm to 10,000 cfm per unit (22 models)

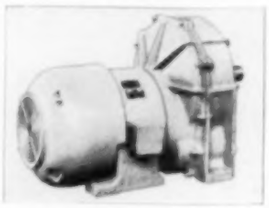
Standard, pre-tested, available from stock. Ask for catalog 605-2. Describe dust problem for recommendation by return mail. No obligation.

AGET-DETROIT CO.
401 Main Street
ANN ARBOR, MICH.

If you write maker identify as IEN - 8433

MOTOR . . Geared head design, 5 to 25 hp., 155 rpm. or slower output

Source: STERLING ELECTRIC MOTORS INC.
5399-03 Telegraph Road, Los Angeles 22, Calif.



15 hp. 100 rpm. is shown

Frame sizes are 364 and 365 in this new geared head motor which the company has added to its Slo' Speed line of electric power drives. The assembly is available in double reduction gear design with Class I, II and III gears. The gear shafts are mounted in bearings in the outer walls of the housing so the gears ride between the bearings and permit use of off-set shafts for permanent gear and bearing alignment in uniform load distribution. Construction includes cast iron housing, labyrinth seals, large terminal boxes.

If you write maker identify as IEN - 8434

INSULATING . . Acoustical tile, mounts plastic film on its outer face

Source: OWENS-CORNING FIBERGLAS CORP.
100 Nicholas Bldg., Toledo 1, Ohio

Beveled edges make a pattern

Sonofaced trade names a new Fiberglas acoustical tile on which a plastic film facing acts as a diaphragm. It transmits sound by vibration into the Fiberglas body where the vibration is absorbed. The tile is suited for any ceiling area, particularly where frequent cleaning is required. It is fire safe, has good light reflection qualities, attractive appearance and good thermal value. The plastic face is printed in a neutral sand color on an off-white background to suggest the intertwining fibers of glass that make up the tile body.

If you write maker identify as IEN - 8435

JACK . . Double piston hydraulic for pushing and pulling, rates 50 ton

Source: OWATONNA TOOL CO.
371 Cedar St., Owatonna, Minn.

New size has been added to the company's hydraulic jack, previously described IEN-4628-52. The line now includes three units rating 17½, 30 and 50 ton respectively. All three are designed to operate from a hand or power driven pump, the latter with remote control. The jack applies in any position for pulling and pushing operations. Overall dimensions are about 9 by 3½ by 9 inches. Ram travel measures 3 inches. The center hole is 1⅝ in. in diameter. Weight is 40 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8436

A PAID NEWS ADVERTISEMENT BY REMINGTON RAND INC.

PRODUCTION CONTROL, 1952
—by men who have controlled production

This new booklet by Remington Rand offers you, *free*, first-hand experience in case-history form, by production men who are dealing successfully with today's complex manufacturing problems.

They find, as you have found, that to deliver the goods today sure-fire methods must be found to coordinate men, materials, machines. The simpler these methods, the better.

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Management Controls Library, Room 1280
315 FOURTH AVENUE, NEW YORK 10, N. Y.

If you write maker identify as IEN - 8437

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CESCO FOR SAFETY

If you write maker identify as IEN - 8438

FOR MATERIAL HANDLING—

more and more—the swing is to wide-base pneumatic tires

GENERAL

INDUSTRIAL PNEUMATIC TIRES

More Designers are specifying wide-base General Pneumatics. **They know Generals add these extra selling points to handling equipment.**

SAVE TIME • MONEY • LABOR

- *MORE LOAD CAPACITY AT LOW OR HIGH SPEEDS*
- *CUSHION EQUIPMENT AND LOADS REDUCING BREAKAGE AND SPILLAGE*
- *SAVE HIGH COST FLOORS AND FLOOR SURFACES*
- *SLOW, EVEN WEAR FOR LONG SERVICE*
- *HIGH FLOTATION FOR EASIER ROLLING OVER SOFT GROUND*
- *ROLLS EASIER, SMOOTHER OVER ALL SURFACES*

Available separately or in assemblies of Tires, Tubes and Wheels. Size O.D. 8" to 27"—200 to 4000 lbs. cap. for low or high speeds.

THE GENERAL TIRE

Rigid **CASTER FORKS** *Swivel*

Wide-base caster forks engineered to carry heavier loads without adding dead weight to equipment. Available in identical pairs in a wide range of sizes.

SEND FOR CATALOG . . . DEPT. 6

THE GENERAL TIRE & RUBBER CO. AKRON, O.

If you write maker identify as IEN - 8440

DRAW 40% FASTER with a Bruning Machine

Tests prove you draft as much as 40% faster with a Bruning machine that combines your five basic instruments . . . T-square, straightedge, triangle, protractor, and scales . . . into one precision unit.

There are no waste motions of picking up and laying down separate tools. That's why you not only draft faster but easier and more accurately with this drafter.

Write for free booklet A-1055 for full details on Touch Control, Equipoise, and other exclusive features. CHARLES BRUNING CO., INC., Department B82, Teterboro, N. J.

BRUNING

Everything for the Engineer and Draftsman

If you write maker identify as IEN - 8441

Better rubber products are made with Du Pont NEOPRENE

Neoprene-coated fabric gloves resist heat, chemicals abrasion . . . have long service life

In practically all types of manual operations—even those involving contact with acid fumes and hot caustic—these industrial gloves of neoprene-coated fabric outlast ordinary gloves many times over. They afford the worker maximum protection . . . and the "non-slip" finish insures a firm, safe grip when the surface is wet or oily.

Because neoprene remains flexible throughout its long life, these sturdy gloves are comfortable to wear. The tough neoprene coating will stand up under constant exposure to heat, grease, oil and most chemicals . . . rough handling of sharp metal parts . . . and won't crack with age.

These heavy-duty work gloves are only one of many types of neoprene-coated gloves available for use in factory and home. Neoprene's wide range of properties find application in thousands of other high-quality products, too. While Du Pont makes no finished goods of neoprene, your rubber goods manufacturer or distributor will gladly tell you about the neoprene products he supplies.

FREE! THE NEOPRENE NOTEBOOK

Full of interesting stories. New, unusual applications of neoprene to build new products . . . improve old products . . . reduce maintenance costs. Write today for your free subscription. E. I. du Pont de Nemours & Co. (Inc.), Rubber Chemicals Division D-8, Wilmington 98, Delaware.

NEOPRENE

The rubber made by Du Pont since 1932

DU PONT

BETTER THINGS FOR BETTER LIVING . . . THROUGH CHEMISTRY

If you write maker identify as IEN - 8443

DRILLING . . Air hydraulic feed actuated by torque at drill point

Source: BELLOWS CO.
230 W. Market St., Akron 9, Ohio

"Feels" its way through the work

Sensitorque trade names new assembly of the company's pneumatically operated hydraulically controlled drilling machine feed attachment. Its new sensing element is actuated by torque imposed upon the drill as it is rotated and fed into the work. The assembly is based upon the company's standard Model DFE2-540 drilling machine feed, previously described IEN-11872-45.

Sensitive relays transmit electrical impulses to withdraw the drill and immediately return it to working position should the drill become clogged with clips, run dry, or tend to seize in the work. The withdrawing action can be adjusted to bring the drill all the way out of a hole or only a short distance. Return action is accompanied by slowdown just prior to touching the bottom of the hole again. This is followed immediately by resumption of the predetermined feed.

A rheostat is provided to adjust the torque from a few inch ounces to the full rotating power of the machine spindle. The feet itself provides 1½ turns of the hand capstan wheel shaft or about 6 in. of spindle movement. Feed pressure ranges from 5 to 7½ times the applied air pressure depending upon the gearing employed in the feed shaft on a given machine.

Action is started by moving a control handle. From that point on the feed takes over. Controls can be set to establish the sensitive operation, to provide straight feed or to operate the machine by hand when desired.

If you write maker identify as IEN - 8444

SAWING . . Miniature band saw to cut metal, has a 5⅜ in. throat

Source: TOMLEE TOOL & ENGINEERING CO.
721 Washington Ave. N., Minneapolis 1, Minn.

$90 without motor

Model 46 is a new metal cutting band saw designed for bench mounting to be used as an auxiliary unit to larger sawing equipment. It mounts a work table that tilts to 45 degrees and is grooved to take a miter gage. Shafts are mounted on ball bearings.

Equipment includes a set of guides, a ⅜-in. saw blade and an instruction bulletin. The drive calls for a ½-hp. motor that can be supplied when specified together with accessories including a steel cabinet stand, a miter gage and a rip fence when required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8445

Glove Buying Know-How Pays You Dividends!

PIONEER **Stanzoils**®

NL-14 Duplex. Lightweight, elastic knit lined, neoprene-coated. Non-slip fingers. Utmost comfort.

The right glove for every job pays off in:

★More glove service at lower per-hour cost
★Full protection for your workers
★Fewer work stoppages and injury claims
★More production through faster-working hands

Lack of glove protection costs you money—but so does loss of worker efficiency. No *one* glove is effective for *all* jobs in your plant. Get the best combination of protection *and* working speed. PIONEER'S new catalog tells you how! *Advice is unbiased, for Stanzoils include all kinds of liquid-tight gloves:* all-neoprene, neoprene or vinyl-coated: 52 styles, weights, sizes, colors. Scientific selection boosts profitable production. Write for this helpful catalog today!

Industrial Products Division

The PIONEER Rubber Company
635 Tiffin Road • Willard, Ohio

STANZOIL

OVER 30 Years OF QUALITY GLOVE MAKING

If you write maker identify as IEN - 8446

PNEUMATIC TIMERS for Every Job

A.C. OR D.C.

FOR TIMING
Motor acceleration
Machine sequences
Process industry operations
Resistance welds, etc.

Invertible A.C. Magnet makes proven design more flexible

- New invertible A.C. magnet provides either "on-delay" or "off-delay" operation—easily converted from one operation to the other.
- Proven accuracy of the Square D pneumatic timer is unaffected by normal changes in voltage and ambient temperature. Contacts have snap action.
- A wide variety of A.C. and D.C. timers enables you to select exactly the right one for any job.

Write for Bulletin 9050. Square D Company, 4041 N. Richards Street, Milwaukee 12, Wisconsin

Ask Your Electrical Distributor for Square D Products

SQUARE D COMPANY

If you write maker identify as IEN - 8447

IT TAKES A LOT OF TELLING TO SUM UP NICHOLSON QUALITY

- 88 years' experience in making files—exclusively.
- File steels Nicholson-specified and analyzed for sustained quality.
- Blanks forged to exacting standards.
- Surface ground and drawfiled to remove scale and assure clean, sound, evenly high teeth.
- Scientifically annealed and straightened for accurate cutting of teeth.
- Uniformly hardened by scientifically controlled methods.
- Manufacturing operations checked at every stage.
- Additionally sharpened by sandblasting.
- Oiled for rust prevention.
- Final-tested for soundness, sharpness and hardness.

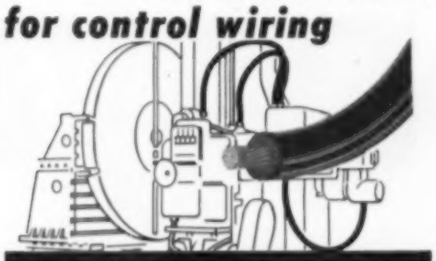
Buy through your Industrial Distributor

NICHOLSON FILE COMPANY
22 Acorn Street, Providence 1, R. I.
(In Canada, Port Hope, Ont.)

NICHOLSON U.S.A. **NICHOLSON FILES** FOR EVERY PURPOSE

If you write maker identify as IEN - 8448

for control wiring



...OKOLITE-OKOPRENE

Keep your electrical circuits *strong*, free from weak spots which may disrupt production. On control wiring, and throughout your plant circuits, specify Okolite-Okoprene wires and cables. Here's why:

Moisture resistant Okolite Insulation is designed for continuous power loads, three shifts per day, year after year.

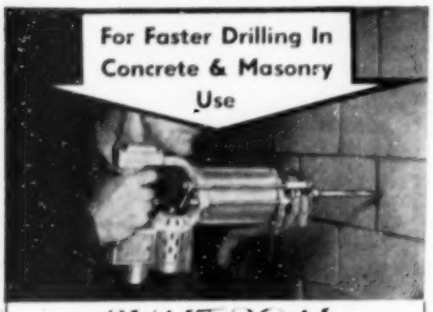
Flame resistant Okoprene Sheath protects against abrasion, heat, mechanical damage, oils and acids.

Insulation and sheath are applied by Okonite's strip process and vulcanized in a metal mold, giving greater stability and longer life to both. Write for Bulletin IE-1053, The Okonite Company, Passaic, N. J.

The best cable is your best policy

OKONITE *insulated wires and cables*

If you write maker identify as IEN - 8449



SYNTRON

"Electromagnet"

HAMMER DRILLS

with Automatic Drill Bit Rotation

The New Syntron Hammer Drills take all the work out of drilling holes in concrete and masonry—no more tiresome turning of the drill chuck—just pull the trigger and a simple rubber ratchet mechanism automatically rotates the bit—the piston strikes 6,0 blows per minute.

Speeds up hole drilling—reduces fatigue—allows more time for other jobs.

Write Today for FREE Catalog Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 8450

NOW . . . A POLISHER THAT'S UNIVERSALLY ADJUSTABLE!

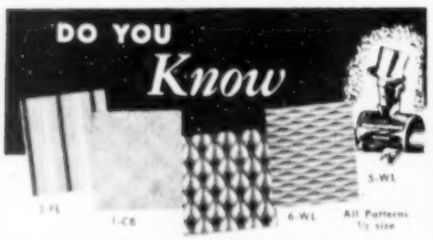
Built for use with the Vonnegut Brush-Backed Polishing Head, this unique tool is designed for sanding, smoothing or finishing contoured patterns—such as mouldings and formed or extruded shapes.

The brush bristles of the head automatically force abrasive strips to conform with and follow the shape of the pattern. The unique spindle stand (adjustable to any angle through 180° from vertical to vertical with head below or above the motor) makes it possible to bring the Vonnegut head into proper relation with a vertical, horizontal or angled surface of any pattern.

Don't hold back. Tell us about your finishing problems; we MAY have the answer to cutting YOUR costs.

Grinding and Polishing Machinery Corp.
SUCCESSORS TO VONNEGUT MOULDER CORPORATION
1827 MADISON AVE., INDIANAPOLIS 25, U.S.A.

If you write maker identify as IEN - 8451



that RIGID-TEX Metal...

. . . is in active use throughout all industry!
. . . can give you economy in maintenance and materials!
. . . can be fabricated by all familiar methods!
. . . is available in a variety of patterns combining beauty with utility!
. . . design strengthened and textured for greatly increased rigidity!
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. . . is available in all ferrous and non-ferrous metals, sheet or strip, solid or perforated!

Well, if you don't know, write today — we'll be glad to tell you!
Please write on company letterheads.

U.S. & Foreign Patents

Rigidized Metals Corporation
6648 OHIO STREET BUFFALO 3, N. Y.
Offices in Principal Cities in the U. S. and Canada

If you write maker identify as IEN - 8452

TRUCK . . Foot hydraulic lift, handles 750 lb. load on steel platform

Source: BIG JOE MFG. CO.
182-86 N. Franklin St., Chicago 6, Ill.

List is $257

Model 14-S is new design of the company's Model 14 foot hydraulic lift truck previously described IEN-7511-52. The new truck is mounted on ball bearing 6-in. swivel casters at the front in design similar to the 5-in. casters employed in the Model 14. The rear wheels are 10 in. with solid rubber tires. Foot operated brakes are standard equipment on these wheels.

A load is raised by operating the spring backed pedal at the rear of the assembly to pump oil beneath a piston in the vertical cylinder on which the platform is chain suspended.

If you write maker identify as IEN - 8453

SAWING . . Carbide tipped blade cuts through abrasive materials, nails

Source: ROCKWELL TOOLS INC.
1312-16 Kinnear Road, Columbus 8, Ohio

Stops frequent blade change

New line of circular saws, tipped with tungsten carbide, ranges in diameter from 6 to 36 inches. The blade will cut materials that are difficult or impossible to saw with blades made of ordinary steel. The blade will cut wood, fiber board, laminates, plastics, highly abrasive materials. It will cut through nails, wire and similar obstructions. Its teeth are designed to minimize kick-back. Carbide cutting tips are chisel faced to cut on both sides of the curve. They taper back from the cutting edges and are without set.

If you write maker identify as IEN - 8454

CONNECTOR . . Electric cable unit for power to magnets, welding machines

Source: H. F. HUNTER SALES
313 Cypress Way, Pittsburgh 28, Pa.

Ask for Eitherend Catalog

Eitherend is a new two-part connector in which the parts, duplicates of each other, are made from a section of brass tube slotted and formed. Two are placed end to end and are pushed together to slide the large outer blades over the small inner ones. This makes contact through four independent surfaces in each connector half.

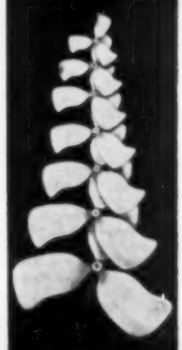
A lock can be specified to make certain that the connectors are not pulled apart accidently, although the frictional pressure is sufficient to prevent this action under usual operating conditions. Sizes in the line take wire and cable from No. 14 to 500 mcm. The connector will operate at the same temperature as the cable on which it is applied.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8455

Kloppenborg (one piece) Cast Aluminum

EXHAUST and CIRCULATING FAN BLADES



INDUSTRIAL USE

Where air is to be moved—Kloppenborg one-piece high grade cast aluminum alloy fan blades are proving exceptionally efficient. Kloppenborg Fan Blades are purchased by many of America's leading industrial plants.

EIGHT SIZES

Kloppenborg Fan Blades are made in 8 sizes — from 12" to 36" — and are rated at 1750 RPM to delivery approximately from 1255 to 14,900 CFM. They are bored to most shaft specifications and are carefully balanced. YOUR maintenance men can install them easily.

Send today for a catalog on blades and all other parts needed for fans.

KLOPPENBORG ALUMINUM FOUNDRY
Established 1938
DAVENPORT 5, IOWA

If you write maker identify as IEN - 8456

It's for You!

HOW TO
★ Save Time
★ Save Floor Space
★ Reduce Handling Costs

all in this FREE BULLETIN

On-the-job photos demonstrate the many advantages of the Nutting Jack and Skid System. It is easy and inexpensive to install—and is so flexible to varying plant layouts that there is scarcely a materials handling problem to which it cannot be profitably applied.

SEND FOR YOUR COPY OF BULLETIN 48 JS NOW

SINCE 1891 Nutting TRUCK AND CASTER CO.
2013 DIVISION ST., W., FARIBAULT, MINN.

If you write maker identify as IEN - 8457

CAPCO DOCK COVERS OFFER YEAR 'ROUND PROTECTION

Can be installed inside or outside of dock door . . . models for various purposes.

SOLD AT A LOW COST

. . . and the cost is especially low because it pays for itself many times . . . saves time and money over many years.

- PREVENTS ACCIDENTS
- ONE MAN CAN OPERATE
- FIREPROOF
- WATERPROOF
- DURABLE — LONG LIFE
- DEPENDABLE

BEAT THE BAD WEATHER

CAPCO Dock Covers completely enclose the space between car and building doorways, protecting loading and unloading during bad weather. Recommended by safety engineers. No more wet merchandise in the rain . . . no more interruption during winter. Here's your insurance against loss of either heat or refrigeration; you have practically the same as indoor loading.

CAPCO

Be sure to write for illustrated literature and prices.

622-24 PROSPECT AVENUE • KANSAS CITY 1, MISSOURI

If you write maker identify as IEN - 8459

ONE OF AMERICA'S BROADEST LINES OF HORIZONTAL ALL-PURPOSE PUMPS

PEERLESS PUMPS

OTHER PEERLESS TYPES:

Close-coupled & flexible-coupled pumps ¼ to 150 hp—up to 5500 gpm

Write today for Peerless Bulletin No. B-2500. Illustrated with views of all pumps in the Peerless Floudyne line. Includes sectional drawings, elevations, dimensional data and head-capacity characteristics. You can buy and apply right from this bulletin.

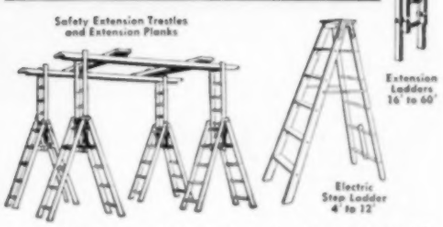
PEERLESS PUMP DIVISION
FOOD MACHINERY AND CHEMICAL CORPORATION

Los Angeles 31, California and Indianapolis 8, Indiana
Offices: New York, Chicago, St. Louis, Atlanta, Dallas, Plainview and Lubbock, Texas, Fresno, Los Angeles, Phoenix, Albuquerque, N. M., Tulsa

If you write maker identify as IEN - 8460

Cost Less Per Year... because They Last YEARS Longer

GOLD MEDAL LADDERS AND TRESTLES



In factories, warehouses and other industrial properties, service and maintenance men demand Gold Medal Ladders and Trestles because they are stronger, safer and withstand hard usage for years longer. Made of the finest, selected woods, they're skillfully made in a large, modern factory by one of the oldest organizations in the field—with more than seventy years' experience.

Types and Sizes for Every Need

You can put your men at the most convenient working height *in greater safety* with Gold Medal Ladders—single, extension and step types—some of which are illustrated—*in a wide range of sizes.*

Used in thousands of plants. See how they can help you . . . write for new Catalog L-71.

Ladders, Scaffolds for any Purpose—Any Place—Any Time
GOLD MEDAL LADDERS & SCAFFOLDING
for Greater Safety...Efficiency...Economy
THE PATENT SCAFFOLDING CO., Inc
38-21 12th Street, Dept. IEN, Long Island City 1, New York

If you write maker identify as IEN - 8462

PAINTING . . Pneumatic spray gun with sensitive controls for fine work

Source: DEVILBISS CO.
305 Phillips Ave., Toledo 1, Ohio

Stenciling, blending, highlighting, small refinishing jobs are the intended application for this new Type-EGA spray gun. It applies with standard glass jar fluid containers of 2 to 16-oz. capacity. The overhead trigger mounted on the aluminum die cast housing actuates both the air valve and the fluid needle and can be used by a left or right-handed operator. The medium spray pattern can be adjusted to practically pin point size for touch-up work.

If you write maker identify as IEN - 8463

MARKING . . Self-adhesive tape, transparent plastic over colored back

Source: LABELON TAPE CO.
P. O. Box 1212-A, Rochester 3, N. Y.

All-White designates a new form of the company's marking tape, previously described IEN-2805-51. It differs from the previous design in that there is no dark colored border along either edge. It duplicates the previous design in all other respects.

⅛ to 1½ in. in 400 in. rolls

Two layers of acetate plastic are bonded together with a white waxey substance laminated between them. The rear layer which is contacted on a surface to be identified is coated with a neoprene adhesive that adheres upon contact to glass, plastics, wood, metal, fabric. Writing, printing, typing pressure on the outer transparent face destroys the wax, exposes the bottom opaque colored face to produce a black line wherever marking pressure has been applied. The mark cannot be erased because it is beneath the plastic. It is not affected in a temperature range between minus 40 and plus 160 deg. F. in service.

If you write maker identify as IEN - 8464

SCAFFOLD . . Saw horse bracket for use in quick scaffold erection

Source: DALTON MFG. CO.
18-22 S. Central Ave., St. Louis 5, Mo.

Nails apply in holes in the sides and face of this new design in the company's Spee-Dee sawhorse bracket, previously described IEN-8257-48. The nails are driven in after the bracket has been applied on the 2 by 4 legs and cross piece so the assembly will not fall apart if it is lifted by the cross piece. The nail holes are flanged as shown in the illustration so the nails can be drawn out quickly. List price is $2 per pair.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8465

THE BOOT THAT WATCHES YOUR STEP!

McDonald SAFETY BOOT AND SAFETY INSOLE

Feet never get careless with this protection! Made of finest quality rubber, McDonald Safety Boots have a built-in flexible insole of overlapping steel strips that stop the sharpest spike! Steel toe cap is most successful ever devised. Safety Insole may be ordered separately for insertion in any type of rubber boot. Boots and Insoles in sizes 6-12. No half sizes in Insole.

Write for Bulletin and Prices

1932 — 1952 "20 YEARS OF PROGRESS"

B-F-McDonald COMPANY
Manufacturers & Distributors of Industrial Safety Clothing & Equipment

5721 W. 96th St., Los Angeles 45
Other Offices in San Francisco and Houston

If you write maker identify as IEN - 8466

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

J. & PHILLIPS, President
PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER 14, N. Y.

If you write maker identify as IEN - 8467

"For twenty-four hours after the bad ice storm February 15, 1950 we were endangered by single phasing and low voltage conditions due to the damage done the power lines by the ice.

"During this period, we blew a flock of Fusetron dual-element fuses—around 240 in fact—but we figure that was a very cheap price to pay for saving over 40 motors from burning up."

Michael G. Kupcho,
Master Mechanic
Ashland Steel and Fittings Co.
Ashland, Pa.

You too, can be safe from electrical hazards by using Fusetron Fuses

They provide 10 Point Protection

1. Protect against short-circuits ★
2. Protect against needless blows caused by harmless overloads.
3. Protect against needless blows caused by excessive heating — lower resistance results in much cooler operation.
4. Provide thermal protection — for panels and switches against damage from heating due to poor contact.
5. Protect motors against burnout from overloading.
6. Protect motors against burnout due to single phasing.
7. Give DOUBLE burnout protection to large motors — without extra cost.
8. Make protection of small motors simple and inexpensive.
9. Protect against waste of space and money — permit use of proper size switches and panels.
10. Protect coils, transformers and solenoids against burnout.

★Fusetron Fuses have high interrupting capacity as shown by tests of the Electrical Testing Laboratories of New York City in December, 1947.

FUSETRON
TRUSTWORTHY NAMES IN ELECTRICAL PROTECTION
BUSS

DON'T RISK LOSSES

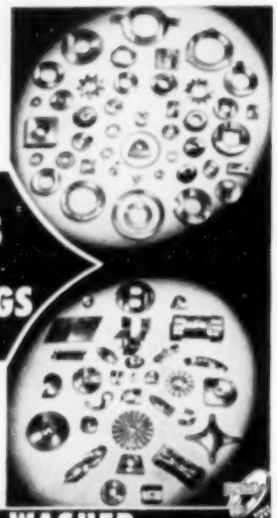
Delay may cost you money — but by passing the word along that all purchase records should call for FUSETRON Fuses, you have action that begets money saving.

BUSSMANN MFG. CO. (Div. McGraw-Electric Co.)
University at Jefferson ST. LOUIS 7, MO.

If you write maker identify as IEN - 8469

Serving **INDUSTRY**

SINCE **1887**



WASHERS and STAMPINGS

Standard and Special Washers, of every description, any material, any finish, utilizing more than 22,000 Sets of Dies.

Let us Quote on Your Needs.

WROUGHT WASHER MFG. CO.
THE WORLD'S LARGEST PRODUCER OF WASHERS
2207 SOUTH BAY STREET • MILWAUKEE 7, WISCONSIN

If you write maker identify as IEN - 8470

CAR PULLERS . . .

Bulletin No. 842 describes and pictures Jeffrey Car Spotters. Two types for handling one to six cars. Also used for docking barges, handling moving operations in lumber yards, foundries, steel mills, brick plants, and other industries. Specifications upon request.

JEFFREY
ESTABLISHED 1877
THE JEFFREY MANUFACTURING CO.
914 Fourth St., Columbus 16, Ohio

If you write maker identify as IEN - 8471

New CROWN
Rust Inhibitor
(Pat. Pending)

Spray or DIP to Protect

- Finished Goods
- Stock in Bins
- Precision equipment
- Tools
- Spare Parts
- Anything that's Valuable and Subject to Rust

Just put it on and leave it on! High-quality animal wax base fluid will not gum or clog under heat or friction. Not smeary, resists rubbing off, yet does not dry hard. Non-inflammable—harmless to hands, metal, plastics. In aerosol-type spray can or in bulk for dipping.

ORDER TODAY
$2.00 per 12-oz. trial can. Discount for cases of 12. Also in bulk, write for details and discount.

CROWN INDUSTRIAL PRODUCTS CO.
402 Borden Ave., Sycamore, Ill.
Please ship at once
.....(How Many?) cans
.....(How Many?) cases
NAME
COMPANY
OUR PURCHASE ORDER NO.
ADDRESS
CITY ZONE STATE

If you write maker identify as IEN - 8472

SWITCH . . Reversing drum design, single or polyphase motors to 2 hp.

Source: SQUARE D CO.
4039-43 N. Richards St., Milwaukee 12, Wis.

Forward, off, reverse

Class 2601 Type A is a new miniature reversing drum switch for use on machines, hoists, conveyors, processing equipment. The operating mechanism can be set up for maintained or spring return action. The assembly includes screw type terminals and terminal blocks with replaceable contact fingers. Loosening a single screw permits removal of the cover for access to three sides. A nameplate at the front indicates handle position and provides rating information. Connections are made through ½-in. conduit openings.

If you write maker identify as IEN - 8473

WOODWORKING . . Circular saw blade, for portable tools, 4½ to 12 inches

Source: HENRY DISSTON & SONS INC.
49 Tacony St., Philadelphia 35, Pa.

Blade material is alloy steel

Leader Line trade names new circular saw blade for use on portable electric tools and also on bench saws. The blade ranges from 4½ to 12 in. in diameter and is available with center hole to fit a specified mandrel. Each is individually packaged and has the name and model of the machine it is designed for etched on its side. Designs intended particularly for bench saws includes the company's new Safe-Feed blade which carries only 8 teeth to prevent kick back.

If you write maker identify as IEN - 8474

WINCH . . Portable, motor driven for pulling and hoisting, to 1 ton

Source: MODERN SUPPLIERS INC.
1332-36 Webster Ave., New York 56, N. Y.

List is $395

Powercrat Junior is a new assembly of winch and ⅓-hp. single phase 110-volt ac. motor. It can be supplied with 500 ft. of cable on the drum to handle 1,000 lb. loads at 25 feet per minute. It is available also with rating to 1 ton to take 250 ft. of cable on the drum and operate at 12 feet per minute. The assembly is mounted on a pair of wheels and is equipped with a structural frame that can be set up in various arrangements for pulling and hoisting operations. One that involves electric cable pulling is shown in the illustration.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8475

DISTRIBUTORS IN PRINCIPAL CITIES

AURORA always PUMPS
AURORA PUMP COMPANY
52 Loucks Street, Aurora, Illinois

If you write maker identify as IEN - 8476

TOOL CRIB CONTROL

New illustrated bulletin presents step-by-step procedure used profitably in hundreds of plants.

How it works to—

- Record each employee's tools or gages, preventing theft and loss;
- Recover idle tools;
- Cut crib inventories;
- Reduce tool breakage;
- Locate each tool, loaned or in crib;
- Eliminate delays, saving man and machine time;
- Stop arguments and otherwise speed service;
- With no increase in crib personnel—

All described in Folder A-510 IEN

Complete control of your tools will save headaches in the months ahead.

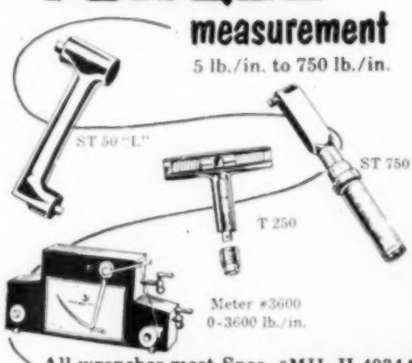
Write for your copy today to:

THE McCASKEY REGISTER COMPANY - ALLIANCE, OHIO

McCASKEY INDUSTRIAL CONTROLS
PRODUCTION • TOOLS • INVENTORY • COSTS • MAINTENANCE

If you write maker identify as IEN - 8477

for accurate TORQUE measurement
5 lb./in. to 750 lb./in.



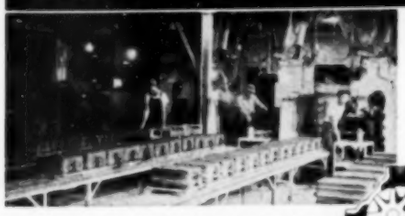
All wrenches meet Spec. #MIL-H 4034A

Write For Catalog

Skyway
PRECISION TOOL CO.
11b/A So. Fremont Ave.
Alhambra, Calif.

If you write maker identify as IEN - 8478

WHAT MAKES VIKING A BETTER PUMP?



A PARTIAL VIEW OF MOULDS BEING MADE IN VIKING'S BRONZE AND ALUMINUM FOUNDRY.

A pump can be no better than the material that goes into it.

All Viking pumps are made from castings poured in our own rigidly controlled Sorbo-Mat foundries.

When you buy a Viking pump, you are assured of the finest gray iron and non-ferrous parts available for the application.

This is just one of the reasons you can expect better and longer service from Vikings — the original gear-within-a-gear pump — the design that made rotary pumps famous.

Send for folder 525F today.

VIKING AN HONORED NAME IN PUMPING

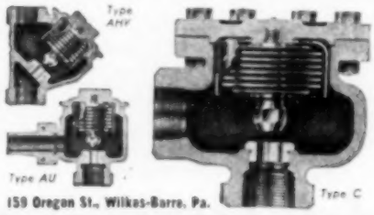
Viking PUMP COMPANY
Cedar Falls, Iowa

If you write maker identify as IEN - 8479

Nicholson Traps Help

CUT STEAM COST $500,000 A YEAR

At one of the nation's large processing plants a campaign to promote economical steam use by improving heat transfer efficiency has resulted in a yearly saving of $500,000. Credit for a fair portion of this is given to improved steam trapping, which resulted from the installation of Nicholson thermostatic traps. To see why an increasing number of leading plants are standardizing on Nicholsons for positive drainage and faster heat transfer, send for BULLETIN 152.



159 Oregon St., Wilkes-Barre, Pa.

W. H. NICHOLSON & CO.

TRAPS · VALVES · FLOATS

If you write maker identify as IEN - 8480

NEW!

"QUIKUPL"*

Stainless Steel Fittings

Join Tubing or Pipe Without Threading, Flaring or Welding

"QUIKUPL" – a *completely new* stainless steel fitting – makes possible the assembling of tubing and pipe lines without threading, flaring, sweat-soldering, brazing or welding. Tubing or pipe is simply cut to length, deburred, and inserted into the fitting – tightening a small screw then completes the coupling.

Resilient sealing ring in "Quikupl" maintains squeeze fit . . . pressure in line causes positive seal between fitting and tube or pipe. Sealing ring is nontoxic to foods, and resistant to most chemicals. Couplings, tees, adapters and elbows (45° and 90°) are available from Frasse warehouse stock in Types 304 and 316 stainless steel—sizes for tube and pipe range from 1" to 4" O. D. For complete details on "Quikupl" stainless steel fittings write for Engineering Memo #7.

*Reg. U. S. Pat. Off.

Peter A. FRASSE and Co., Inc.

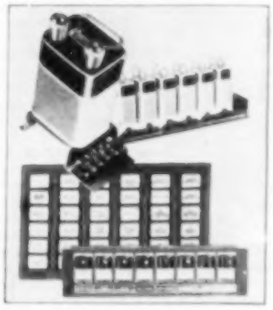
17 Grand Street, New York 13, New York

Lyndhurst Philadelphia Buffalo Syracuse

If you write maker identify as IEN - 8482

SIGNALING . . Electric annunciator indicates normal, abnormal conditions

Source: TIGERMAN ENGINEERING CO.
4330-34 N. Western Ave., Chicago 18, Ill.



Ask for Bulletin 440

Two types of hermetically sealed plug-in relay elements are employed as the operating units in this new Tel-Alarm annunciator. One type carries a pair of lamps at its inner end and is designed to mount in back of signaling panels so the lights will illuminate the panel messages when the relay closes. The other design omits the lamps and is intended for remote installation at some distance from the actual annunciator panel containing the lamps.

Two types of panel are available in single rows containing 2 to 12 stations and in any multiple of these single rows to build up a desired assembly. The engraved nameplates measure 2¼ by 3 in. and are held in frames in removable assembly. When they are removed the two 6-watt lamps are accessible for inspection or replacement from the front.

A second design replaces the engraved nameplates in 2 to 12-station single-row assemblies with turret lenses in which the upper portion is one color and the lower portion is another. Available colors include red, white, green and amber. These lenses fit into the standard nameplate holders and can be interchanged.

Each chassis in which the plug in elements are assembled is wired uniformly for bus, lamp and field trouble contact connections. The rigid steel base members support either octal or flush type multipin sockets. Plug-in support brackets hold each relay assembly in place.

If you write maker identify as IEN - 8483

THREADING . . Nipple chuck, ⅛ to 2 in., close, short, shoulder

Source: BEAVER PIPE TOOLS INC.
334 Dana St. N. E., Warren, Ohio

Boxed set 532

Any length of nipple can be secured in this new No. 55 chuck to complete the threading job with a suitable pipe die. A nipple, threaded on one end, is turned by hand into the body end or into an adapter threaded in the body. It is backed up by a sliding plunger and locked by the action of the Acme square threaded shank that turns into the body from the rear.

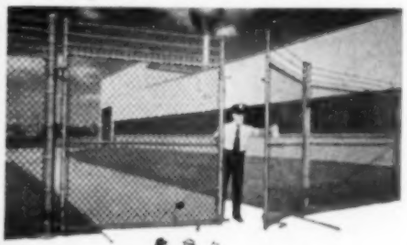
The shank is reversed when the threading has been completed to release the nipple so it can be removed by hand. The chuck with a set of adapters for ⅛ to 2-in. pipe is available in a metal box. Individual adapters list at $1.50. The parts are made of steel hardened as required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8484

PAGE FENCE - Since 1883

• AMERICA'S FIRST WIRE FENCE •

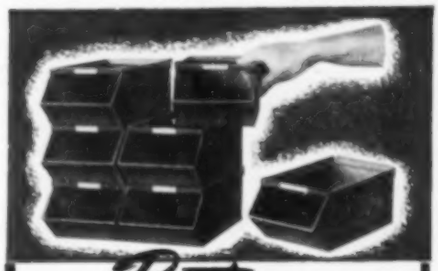


Defense against hazards which could hinder or stop production is a major function of Page Chain Link Fence, guardian of persons and property for more than 60 years. Consult the skilled Page Fence erecting firm near you, whose name we will send with fence data on request. Cost estimates, no obligation. For information:

Write to PAGE FENCE ASSOCIATION in Monessen, Pa., Atlanta, Bridgeport, Chicago, Denver, Detroit, Los Angeles, Philadelphia, New York or San Francisco.

PRODUCT OF PAGE STEEL & WIRE DIVISION OF AMERICAN CHAIN & CABLE COMPANY, INC.

If you write maker identify as IEN - 8485



Parts . . .

★ Where You Want Them . . .

★ When You Want Them

You'll save time, space and labor handling parts and material when you use these patented STACKBINS. STACKBINS keep parts instantly accessible—eliminate waste hand motions—stack compactly to form units of exactly the right shape and capacity—make order filling or assembly work faster, easier, more efficient. Heavy steel, all-welded construction. Sizes from 3½" x 4" x 3¼" to 15" x 24" x 11". Prices from $.65 to $2.75.

Manufactured and sold in Canada exclusively by Wickware-Stackbin, Ltd., Ottawa

Write Stackbin Corp., 1077 Main Street, Pawtucket, R. I.

STACKBIN SYSTEM

"Stacked and Still Accessible"

If you write maker identify as IEN - 8486

BROWNHOIST BUILDS BETTER BUCKETS

• BUY DIRECT FROM FACTORY FOR LESS

• ROPE REEVE, POWER WHEEL LINK TYPE

• WRITE FOR CATALOG

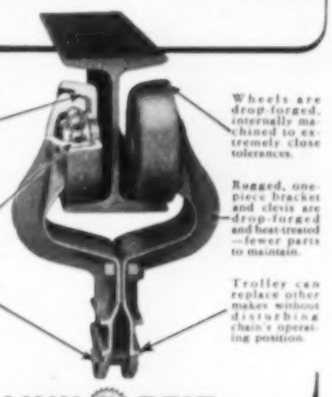
INDUSTRIAL BROWNHOIST CORP.

BAY CITY, MICHIGAN

156

If you write maker identify as IEN - 8487

Your conveyor dollars go farther with LINK-BELT trolleys



LINK-BELT

LINK-BELT COMPANY: Chicago 8, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8.

Write for Folder 2241-B.

If you write maker identify as **IEN - 8488**

JOHNSON

Light Weight
LOW COST

Bronze on Steel Bearings

While widely used in automotive and farm equipment, these bearings have certain important industrial uses. Pre-cast bearing bronze powder is bonded to copper coated strip steel—combining the fine bearing qualities of copper-lead alloy with the strength and other physical properties of the steel backing. Developed and patented by Johnson Bronze. This material is available for washers, thrust plates and other flat parts requiring a bearing surface.

Write for complete information.

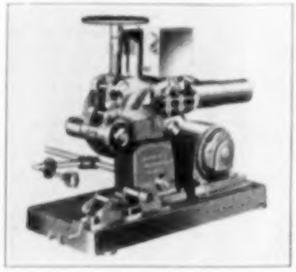
JOHNSON BRONZE COMPANY
476 South Mill Street • New Castle, Pa.

JOHNSON BEARINGS
Sleeve-Type

If you write maker identify as **IEN - 8491**

CUTTING . . Wheel type machine for pipe to 12 in., air operated

Source: CONTINENTAL MACHINE CO.
1952-A N. Maud Ave., Chicago 14, Ill.



Pipe rotates under wheel

New size has been added to the company's Steen line of air operated wheel type cut-off machines with a capacity range from 3 to 12-in. pipe with maximum wall section measuring ⅝ inch. The machine is driven by a 5-hp. motor. It employs a power cylinder with 6-in. bore and 5-in. stroke. Floor space measures 29 by 35 inches. Height is 48 inches.

The spindle carrying the cut-off wheel is mounted in a head that pivots at the rear of the machine housing and rides beneath a wedge connecting to the power cylinder. This wedge, in turn, is beneath an idler wheel carried in a head backed up by an adjusting screw on the housing. As pressure is applied in the cylinder to move the wedge forward the spindle is moved downward.

The cutting wheel makes contact with the work held on a pair of supporting rolls. Then it starts the work turning and finally rolls its way through the pipe or tube wall. Pipe measuring 1½ in. with a 16-gage wall can be cut in 3 seconds. Larger 12-in. pipe with a ½-in. wall can be cut in 45 seconds.

If you write maker identify as **IEN - 8494**

Need Rails—Switches—Frogs—Guard Rails or Track Tools? For best selections and prompt deliveries—try FOSTER—shipments of most items can be made from stocks in our five nationwide warehouses.

RAILS—New and Relaying Foster stocks are being replenished daily. Any items we did not have last week, we'll probably have next week. We match specifications and sizes to meet all your requirements on any job, new installations or replacements. *Call on Foster for all your needs for Industrial Track Equipment and Supplies.*

Write for Track Equipment Bulletin IE8.

L. B. FOSTER CO.
CHICAGO 4, ILL. HOUSTON 2, TEX.
PITTSBURGH 30, PA. NEW YORK 7, N.Y.

If you write maker identify as **IEN - 8489**

CLUE TO A SOLUTION FOR YOU?
GAST Oil-less AIR PUMP does double duty on HOMOCARB FURNACE

PROBLEM: Get a compact pump that provides both vacuum and pressure in a gas-air system required for operation of Leeds & Northrup Microcarb Atmosphere Control applied to the Homocarb Furnace equipment.

SOLUTION: One Gast Integral Oil-less Air Pump does double duty. It provides low vacuum to draw a continuous 2 cu ft. per hr. sample of furnace gas over the atmosphere detector. At the same time the pump maintains a mixture of furnace atmosphere and air at 5 to 10 pounds pressure in the system on the discharge side of pump.

see our CATALOG in SWEET'S FILE

Gast Application Ideas Booklet—showing 26 design problems solved—sent upon request.

RESULT: Positive displacement pump provides absolutely oil-free air, and eliminates worries about lubrication. Rotary design runs quiet and cool.

SUCH AN EXAMPLE as this may contain a clue to solving a similar or even totally different problem on your desk. You might be surprised at the innumerable applications for air pumps and air motors in the lower capacity ranges. Write today describing your original equipment problem. We'll send full details. "Air may be your Answer."

Original Equipment Manufacturers for Over 25 Years

GAST ROTARY AIR MOTORS · COMPRESSORS · VACUUM PUMPS
GAST MANUFACTURING CORP., [illegible] Hinkley St., Benton Harbor, Mich.

If you write maker identify as **IEN - 8492**

TESTING . . Prebuilt screen room for interference free electronic tests

Source: LINDGREN SCREEN ROOM
4513-17 N. Ravenswood Ave., Chicago 40, Ill.

Interference free inside

Wood frames measuring 31 by 91 in. are assembled on the job to make up this new screen room to test electronic equipment. One of the panels is equipped with an access door. Another contains an entrance door. A third carries six power-line entrances. A special section for the power entrance filters can be placed as required. The floor is made of ⅝-in. plywood. Tests can be made on electronic equipment inside the room without danger from outside interference.

The panels are made with a double screen design in which the screens are physically and electrically insulated from each other so no electrical noise or interference that may have penetrated the first screen can also penetrate the second one. The screens are grounded at a common point. They are made of copper attached to the panel frames with copper tacks. Hardware is copper plated. Adjacent screen panels are electrically connected. Over-lapping outer screen construction insulates along the door casings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN - 8495**

fmc ACCORDION GRAVITY CONVEYOR

Makes Box Handling Easy

EXTENDS to 10 ft. Always the right length for your particular need.	**CONTRACTS** to 3 ft. Light and compact, takes little storage space.	**CURVES** around corners. Split rollers keep boxes on without side rails.
TWISTS to avoid obstructions. Adaptable to your present plant layout.	**RAISES** to 30" and **LOWERS** to 20". Other length legs available. Gravity feed; no power needed.	**RUGGED** construction. Both roller or side wheel types in steel or aluminum.

DIFFERENT WIDTHS AVAILABLE. 14" or 18" width rollers are standard. With skate wheels: 10", 14" and 18" widths available on special order. There is a model to fit your problem. Write for bulletin. Dept. D.

FOOD MACHINERY AND CHEMICAL CORPORATION
PACKING EQUIPMENT DIVISION
Riverside, California • McAllen, Texas

NM-6

If you write maker identify as **IEN - 8490**

Automatically
SOUNDS SIGNALS, OPERATES EQUIPMENT ON ACCURATE SCHEDULES

Montgomery PROGRAM CLOCKS & INDUSTRIAL TIMERS

Program clocks for automatic control of signal systems, governing work periods, permitting manual operation for special programs or emergency alarms without affecting accuracy of pe-set schedule.

Industrial timers start and stop equipment automatically to a pre-set schedule. Wide application for shop and laboratory operations. Special timing equipment engineered to your requirements.

Request free specification and data sheets

MONTGOMERY MANUFACTURING CO., Owensville 8, Ind.
Please send free Industrial Timer data sheets

Name
Position Company
Address City State

If you write maker identify as **IEN - 8493**

GRIPPING FORCE 15 TIMES AIR LINE PRESSURE

Speedy Air Vise helps you do dozens of operations faster, better, cheaper—by air pressure! Foot control valve opens and shuts vise instantly, leaving *both* hands free to produce *more!* Jaw opens up to 3 inches, holds castings, parts, jigs, etc. Compact and trouble-free.

Complete with Foot Control, Air Hose and Fittings . . . . . only **$29.90**

Prompt Delivery from Your Supplier or Write Direct

W. R. BROWN CORPORATION • 2645 N. Normandy Ave., Chicago 35, Ill.

AIR REGULATORS • AIR FILTERS • AIR GUNS • PORTABLE COMPRESSORS

If you write maker identify as **IEN - 8496**

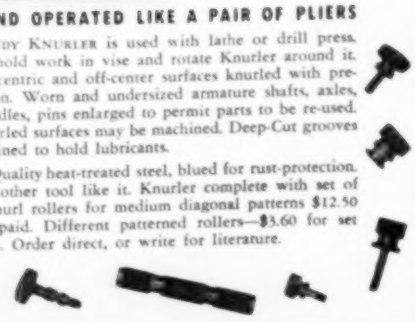
The HANDY KNURLER

Save set-up time, operations and parts...Use Handy Knurler for individual knurling jobs—also for certain types of production work.

HAND OPERATED LIKE A PAIR OF PLIERS

Handy Knurler is used with lathe or drill press. Or hold work in vise and rotate Knurler around it. Concentric and off-center surfaces knurled with precision. Worn and undersized armature shafts, axles, spindles, pins enlarged to permit parts to be re-used. Knurled surfaces may be machined. Deep-Cut grooves retained to hold lubricants.

★ Quality heat-treated steel, blued for rust-protection. No other tool like it. Knurler complete with set of 3 knurl rollers for medium diagonal patterns $12.50 postpaid. Different patterned rollers—$3.60 for set of 3. Order direct, or write for literature.



M. P. A. CO., 1678 W. 17th PL., LOS ANGELES 6, CALIF.

If you write maker identify as IEN - 8497

BRUNNER AIR COMPRESSORS

AIR ..WHEN YOU NEED IT ..WHERE YOU NEED IT ..and ALL YOU NEED!

Compressed air costs practically nothing *if* your air supply is set up for instant availability and in adequate volume at all points of use.

Brunner Air Compressors have an unquestioned reputation for carefree dependability—they stand up under heavy service—and there are models to fit every air power job in the plant.

Model H-1217 Displacement 17.7 CFM. Single stage models from ¼ to 2 hp. Two stage models from 1½ to 15 hp. Horizontal and vertical styles.

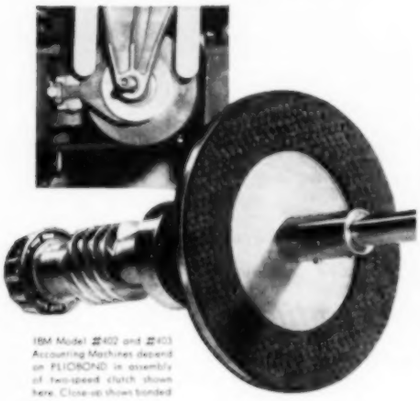
BRUNNER MANUFACTURING CO., UTICA 1, N. Y., U. S. A.

BRUNNER **REFRIGERATION** Condensing Units from ¼ to 75 hp. for industrial refrigeration and air conditioning applications. Self Contained Air Conditioners in 4 sizes to 10 hp.

If you write maker identify as IEN - 8498

Pliobond

Resists Shock and Shear on Office Machine Speed Clutch



IBM Model 402 and 403 Accounting Machines depend on PLIOBOND in assembly of two-speed clutch shown here. Close-up shows bonded parts.

DESPITE shock and shear resulting from frequent speed changes from 1,000 to 1,500 RPM, the clutch facing on this machine is permanently bonded with PLIOBOND—Goodyear's rubber-like thermoplastic adhesive that "bonds anything to anything." And elimination of rivets formerly used to attach clutch lining material to metal face plate has added to life of facings.

Good aging qualities, high strength, ease of application and high moisture and chemical resistance make PLIOBOND first choice in hundreds of assembly applications. Discuss your bonding problems with a PLIOBOND distributor, or write:

Goodyear, Chemical Division
Akron 16, Ohio

CHEMICAL GOODYEAR DIVISION

Use Proved Products
CHEMIGUM • PLIOBOND • PLIOLITE • PLIOVIC • WING-CHEMICALS
The Finest Chemicals for Industry

Chemigum, Pliobond, Pliolite, Pliovic—T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio

If you write maker identify as IEN - 8500

MELTING . . Electric pot for plastics, solder, to 600 deg. F.

Source: WAAGE ELECTRIC INC.
725 Colfax Ave., Kenilworth, N. J.

$25 to $80

Seven sizes in the company's new Series-RW rectangular melting pots range from 4 to 18 in. in inside length, from 4 to 12 in. in width. All are 2 in. in pot depth. The smallest unit rates 500 watts input to its nickel chromium heating elements and is suited for temperatures to 600 deg. F. The largest rates 2,400 watts and is suited for temperatures to 550 deg. F. A thermostat for adjustable control is standard equipment. The housing is made of aluminum or cast iron depending upon the service temperature.

If you write maker identify as IEN - 8501

SOLDERING . . Filler metal to close cracks, smooth dents in metal

Source: SWISS LABORATORY
1533-A Hamilton Ave., Cleveland 14, Ohio

18 cents per bar in 200 bar lots

Fil-Soder is a new compound of aluminum with lead, tin and resins, for application as a filler metal to close cracks and iron out imperfections in metal surfaces. It will adhere to aluminum, brass, copper, steel. It is applied by heating with a torch to a temperature about one-half that required to melt tin or lead alloy solders. It can be spread into position and ironed out to feather edge when it is kept warm. Lacquer or paint can be applied over the finished surface which will withstand temperature to 350 deg. F. under an infra-red lamp.

The material is supplied in rod form, ⅜ in. in diameter by 12 in. in length. Each rod weighs about 2 oz. and two are equivalent in filling capacity to a pound of tin or lead solder. Because of the low heat, application will not warp sheet metal. The solder will not run or drop on upright work.

If you write maker identify as IEN - 8502

PROTECTING . . Hair net and visor for women workers at plant machinery

Source: GENERAL SCIENTIFIC EQUIPMENT CO.
2785 W. Huntingdon St., Philadelphia 32, Pa.

New cap No. GS-41 is made of a hair net and a visor to provide a hair enclosing unit that will be cool to wear and negligible in weight. It is available in 5 colors and is adjustable for any head size. The green opaque visor minimizes glare. List price is $3 per dozen.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8503

AT YOUR SERVICE

2 NEW Shenango bulletins

. . . on symmetrical or annular parts, ferrous and non-ferrous

FIND out about the many advantages and savings you stand to gain with Shenango centrifugally cast parts.

BULLETIN NO. 130 covers non-ferrous parts in manganese and aluminum bronzes, red bronzes, brass, Monel Metal and special alloys.

BULLETIN NO. 151 covers parts of Meehanite Metal, Ni-Resist and special iron alloys.

Either or both bulletins are yours for the asking.

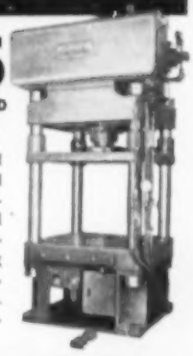
SHENANGO-PENN MOLD COMPANY
Centrifugal Castings Division
Dover, Ohio
Executive Office: Pittsburgh, Pa.

SHENANGO
ALL RED BRONZES • MANGANESE BRONZES • ALUMINUM BRONZES
MONEL METAL • NI-RESIST • MEEHANITE METAL

If you write maker identify as IEN - 8504

helpful HYDRAULIC PRESS *catalog*

75 STANDARD MODELS



Keep it in your machine tool file. Hannifin Standardized Hydraulic Presses Catalog contains complete descriptions and specifications on Hannifin Forcing Presses, Straightening Presses, Column-Type Presses. Hannifin Corporation, 1107 S. Kilbourn Ave., Chicago 24, Ill.

do ALL you CAN do . . . with

HANNIFIN

Air Cylinders • Hydraulic Cylinders • Hydraulic Presses
Pneumatic Presses • Hydraulic Riveters • Air Control Valves

If you write maker identify as IEN - 8505

ELECTRIC

TACHOMETERS

Simplified RUGGED Design

HAND MODEL

Small size and light weight — ideal for any shop and production test application. Precision made, sealed ball bearings, and the elimination of wearing parts assure constant accuracy. Models from 0-2,400 RPM + 800 FPM, 5,000, 15,000, and 25,000 RPM. $42.50 and up.

PORTABLE MODEL

Measures any rotating speed with sustained accuracy for production and laboratory use. Three-range expanded scale: 0 to 1,000; 1,000 to 2,500; 2,500 to 5,000 and other models up to 20,000 RPM. Stability assured with no contacts, brushes or batteries to wear out. Accuracy ½, 1 or 2% of full scale. $71.00 and up.

MOUNTED MODEL

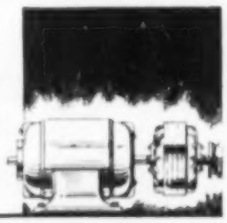
Non-directional or indicating forward or reverse speeds in any required range up to 25,000 RPM. Available with SAE fittings and base mount. Calibrated to your exact needs. Completely enclosed and protected against moisture and dirt. $42.00 and up.

Special models made for any specific requirements

ELECTRO-MECHANO CO.
269 E. Erie St., Milwaukee, Wis.

If you write maker identify as IEN - 8506

How to make BIGGER MOTORS



. . . out of SMALLER MOTORS . . .

. . . Motors or engines do bigger jobs with Twin Disc's HYDRO-SHEAVE® Drive. Slipped on the end of the motor or engine shaft, they enable easy pickup of heavy loads, absorb shock loads, reduce belt wear, save motor burnouts, stalls. By use of HYDRO-SHEAVES, motors can often be selected for running load rather than starting load requirements. Let your Twin Disc Hydraulic Dealer show you, or write for Bulletin 145-B or a file of Installation Reports.

HYDRO-SHEAVE for motors and engines ¾ to 50 hp.

TWIN DISC

TWIN DISC CLUTCH COMPANY, Racine, Wisconsin • ROCKFORD, ILLINOIS
BRANCHES: CLEVELAND • DALLAS • DETROIT • LOS ANGELES • NEWARK • NEW ORLEANS • SEATTLE • TULSA

If you write maker identify as IEN-8507

STEAM TRAPPING OUT-DOORS

When steam heated equipment is too far away to permit returning the condensate to the boiler, ordinary steam traps cause much waste by discharging condensate at high temperature.

If equipment is out-doors, there is the further problem of preventing freeze-ups in winter.

Meet both problems with . . .

SARCO
LIQUID EXPANSION STEAM TRAPS No. 871

This trap discharges condensate to atmosphere below 212°F regardless of inlet pressure (to 550 psi). When cold, its large discharge valve is wide open, — it cannot freeze.

507 Write for Bulletin 258 for full information.

SARCO SAVES STEAM — SARCO COMPANY, INC. Empire State Bldg., New York 1, N.Y. SARCO CANADA, LTD., TORONTO 3, ONTARIO

If you write maker identify as IEN-8508

Let's not clean away dollars and man-hours with costly, inadequate floor care

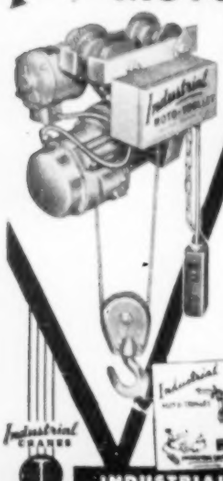
MECHANIZE *your floor cleaning with a* COMBINATION SCRUBBER-VAC!

This single unit, *Model 213P* at left, applies the cleanser, scrubs, rinses if required, and picks up—*all in one operation!* It's *self propelled*, and has a *positive* clutch. No switches to set for *fast* or *slow*. The *213P*, for large-area scrubbing, has a 26" brush spread. Cleans up to 8,750 sq ft per hour! *Finnell* makes sizes for small, vast, and intermediate operations . . . available on either lease or purchase plan. For demonstration, consultation, or literature, phone or write nearest *Finnell Branch* or Finnell System, Inc., 2608 East St., Elkhart, Ind.

FINNELL SYSTEM, INC. Manufacturers of Floor Scrubbing and Polishing Machines — FINNELL — BRANCHES IN ALL PRINCIPAL CITIES

If you write maker identify as IEN-8509

Industrial MOTO-TROLLEY



MAY BE ATTACHED TO YOUR STANDARD ELECTRIC HOIST . . .

ADJUSTABLE TO ACCOMMODATE WIDE VARIETY OF BEAM SIZES

- Crown-tread machine steel wheels with hardened drivers.
- Each wheel equipped with double-row precision ball bearings and removable-head axle with Alemite grease fittings.
- Powered by a crane-duty high-torque totally enclosed motor of 30 minute 55 degree rating.
- Magnetic contact panel has transformer to reduce voltage in single speed push button control circuit.
- 4-button control station operates single speed trolley and hoist motions.

Write for Literature

Industrial CRANES

INDUSTRIAL EQUIPMENT CO. 321 NORTH ADA STREET CHICAGO 7, ILLINOIS *Representatives in Principal Cities.*

If you write maker identify as IEN-8510

COMMUNICATING . . Telephone transmits over plant power lines

Source: FARMERS ENGINEERING & MFG. CO. 547-51 Brushton Ave., Pittsburgh 21, Pa.

"Bring the crane over us, Joe"

The circuit over which two-way conversation is transmitted can be a trolley wire or a power line and rails or suitable grounding means for the return side with this new Series-2550 Trolleyphone. It is a further development of the equipment previously described IEN-11671-51. It provides a means for communication between stationary points in a plant and the cabs of mobile equipment such as cranes, locomotives.

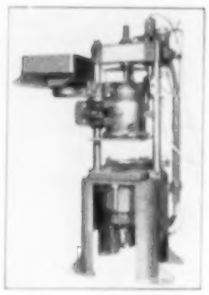
Each unit is a combination of a transmitter and receiver with a press-to-talk microphone and a speaker with control that holds the volume to a normal voice level at any point in the overall 1, to 3-mile range. All components in the assembly are plug-in design for quick removal and replacement.

Power can be taken from 6 to 40-volt battery, from a 220 to 550-volt dc. trolley line or from a 110 or 220-volt ac. single or 3-phase power line. Current drain is about 0.5 ampere. The carrier current is at 100 kc. Output is 20 watts.

If you write maker identify as IEN-8511

FOUNDRIES . . Core blowing machine employs ordinary wood core boxes

Source: FEDERAL FOUNDRY SUPPLY CO. 4611 E. 71st St., Cleveland 5, Ohio



Easy on core boxes

Cores weighing a few ounces to 40 lb. each are made in ordinary wood boxes by application of this new San-Bio Pulsator machine. Operation employs a series of short duration quickly repeating blows to fill the core cavity progressively and to limit pressure within the core box to a safe operating point.

The machine includes a mechanized sand magazine that uses motor driven plows and an aerating air circuit to move the sand to the blow hole and carry it into the box. Sand mixtures with moisture content to 8 per cent and green bond strength to 12 lb. per sq. in. can be handled.

Two types of machine employ electric push-button control for clamping, blowing and releasing. One is refilled manually. The other is designed for loading from above into an inverted funnel-shaped hopper. Stroke measures 6 in. at the vertical clamping table of the new machine.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . *See Page 50*

If you write maker identify as IEN-8512

SHALLOW HOLES . . . DEEP HOLES DRILL THEM ALL FASTER, BETTER

WITH A *Commander*

DRILL CHIP BREAKER

- ✓ Small Chips Permit 50% — 400% Increase in Drilling Speeds
- ✓ Drill 10 Diameters or More in Depth Without Clearing Drill
- ✓ Better, Smoother, More Accurate Holes

ORDINARY CHIPS

CHIP BREAKER CHIPS

Reciprocating action of the Commander Drill Chip Breaker breaks chips into small pieces that travel up drill flutes . . . permitting higher drilling speeds . . . doubles and triples production of shallow OR deep holes. Long chips which cause drill breakage, scored holes, slow jig and fixture loading are eliminated—small, easy to handle chips flow up out of hole continuously, permitting coolant to reach cutting edge of drill. Assures longer drill life, more holes per sharpening, more holes per hour.

Write FOR CATALOG #851 which describes Commander's Production Tools

Commander MFG. CO. 4219 W. KINZIE STREET CHICAGO 24, ILLINOIS

If you write maker identify as IEN-8513

MEET THE NEW MODEL

MUCKLE VENTS

Take a look at the new silhouette . . . it's low slung and streamlined — better looking on any roof!

Get away from old, "eye sore" ventilators—get the newly designed Muckle Vents. Engineered for better performance in moisture laden air — the motor is out of line of air flow. A compact, good looking, easy to install all-in-one unit to fit any roof.

Write today for more information on Muckle Vents

Muckle MANUFACTURING CO. OWATONNA 33, MINN.

If you write maker identify as IEN-8514

ANNOUNCING— The NEW *Federal* SELENIUM RECTIFIER

with **36** VOLT (RMS) CELLS

Designed for Special Applications where SIZE • WEIGHT • EFFICIENCY are TOP CONSIDERATIONS

- Fewer plates
- Lighter weight
- Smaller size
- Greater over-all efficiency
- Dependable "Federal Performance"

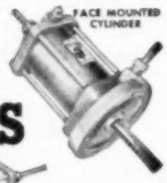
Developed by America's oldest and largest manufacturer of selenium rectifiers, you can *depend on its quality, efficiency and economy* . . . for many military end-use equipments . . . for aircraft and compact, portable units. For complete details, write today to Dept. F-128

Identified by its GOLDEN Color!

Federal Telephone and Radio Corporation — IT&T — 100 KINGSLAND AVE. CLIFTON, N. J.

If you write maker identify as IEN-8515

DOUBLE-ACTION AIR CYLINDERS



Mounting	Bore				
Horizontal	1½"	2¼"	3"	4"	5"
Vertical	1½"	2¼"	3"	4"	5"
Face	1½"	2¼"	3"	4"	5"
Swivel	1½"	2¼"	3"	4"	5"

Length of stroke optional

The new Mead Air Power Catalog shows the full line of single and double-acting cylinders, and air-operated Presses, Vises, Chucks, Hammers, Work Feeders — for Faster, money-saving production. Write today!

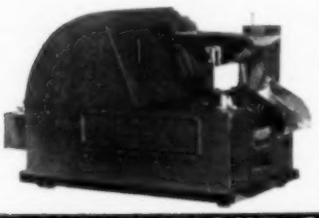
MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. E-82-A, CHICAGO 41, ILL.

If you write maker identify as IEN - 8516

Shadograph – a New Dollar Saving Precision Compounding Unit . . .

Many products made in the past depended upon skill alone. Since skill is a personal element lack of uniformity was the result. This lack of uniformity was due to formulae failure which brought forth a high percentage of rejection in finished parts. Simple pre-determined weighing corrects this fault, improves finished parts, cuts costs and waste of materials. Newest weighing unit for solving this problem is EXACT WEIGHT Shadograph (illustrated). Features high precision accuracy . . . automatic dump to speed up operation . . . is the last word in precision compounding equipment. Unit is entirely electrically operated. Write for complete specifications to fit your particular operation.



EXACT WEIGHT SCALES

Industrial Precision

THE EXACT WEIGHT SCALE COMPANY
932 W. Fifth Avenue, Columbus 8, Ohio
2920 Bloor St., W., Toronto 18, Canada

If you write maker identify as IEN - 8517

Wins every time

You can't deal yourself a better hand than U.S. Security. It's the completely dependable tape for electrical or general-purpose jobs. Security has no pinholes to cause leaks, will not dry out. It has high-dielectric strength, is straight-tearing, non-ravelling, will never let you down. ALWAYS SPECIFY U.S. Security.

U.S. Security Rubber Tape is unbeatable for perfect splicing when used with U.S. Security Friction Tape.

Quality products of

U.S. RUBBER
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY
TAPE DEPARTMENT • ROCKEFELLER CENTER, NEW YORK 20, N. Y.

If you write maker identify as IEN - 8519

FASTENING . . Spring steel nut to decorate end of unthreaded rod

Source: PALNUT CO.
59 Cordier St., Irvington 11, N. J.

Replaces threading, notching, planing

Spring steel employed in the construction of this new Pushnut is formed to present three internal gripping fingers and six sharp points of contact on the turned-in flanges. It grips a rod when pushed into position or tapped into place with a hammer. Resistance to removal ranges up to 100 pounds. The nut was initially developed for use on wheeled toys.

Type C with a closed end is available for $\frac{1}{16}$ and $\frac{1}{8}$-in. rod. Type K with a through hole measures $\frac{1}{16}$, $\frac{1}{8}$ and $\frac{3}{16}$ inch.

If you write maker identify as IEN - 8520

LUBRICATING . . Liquid coolant applies in metal honing operations

Source: PELRON CORP.
7738-42 W. 47th St., Lyons, Ill.

Non-flammable
non-volatile

Free cutting action elimination of "loading" of the hones and prevention of over-heating of both work and hone are characteristics of the company's new No. 500 water soluble coolant. It is made up of a liquid detergent, extreme pressure lubricant and a corrosion inhibitor, the latter to stop formation of rust on the honing machine or on the work.

If you write maker identify as IEN - 8521

CONVEYING . . Portable belt unit for utility use, adjustable incline

Source: SPEEDWAYS CONVEYORS INC.
1244 Niagara St., Buffalo 13, N. Y.

Wheels into place

Speedlift, Jr. is a new portable belt conveyor mounting a Ruff-top 12-in. 3-ply duck belt on pulleys spaced 10 ft. apart. It can be set up at any angle to 30 degrees with horizontal or released and rolled away on its two 8-in. semi-pneumatic wheels to a new location. Idlers assure correct belt tracking so no adjustment is required. The unit is intended for general utility in a plant, warehouse, shipping or receiving platform.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8522

Now you can fasten V-belts by using

ALLIGATOR
V-BELT FASTENERS

● Alligator V-Belt Fasteners and open-end (long length) V-belting in rolls will enable you to make up multiple V-belt drives for a wide variety of applications.

Available for B, C and D sizes of V-belting.

Not to be used for repairing endless cord V-belts.

Bulletin V-211 will give you complete details. A copy mailed on request.

Order from your supply house

FLEXIBLE STEEL LACING COMPANY
4610 Lexington Street, Chicago 44, Illinois

Also sole manufacturers of Alligator Steel Belt Lacing for flat conveyor and transmission belts and FLEXCO Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

If you write maker identify as IEN - 8523

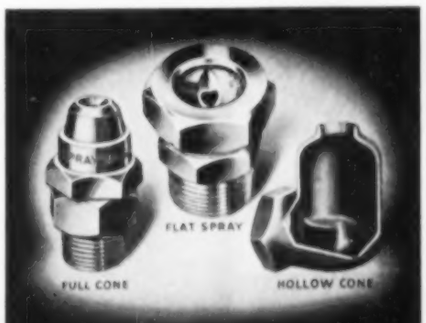
- 130" Extreme Lift
- 59½" Free Lift
- 60" Turning Radius

Mercury JEEP
MODEL 230
2000 Lb. Capacity
Tilting—Tiering

The most versatile fork truck of 2000 lb. rating. 130" lift with ample stability... 60" turning radius *plus* inclined automotive steering... foot pedal acceleration . . . convenient controls and many other design advancements. For complete details request Bulletin 256.

MERCURY MANUFACTURING COMPANY
4132 S. Halsted Street • Chicago 9, Illinois

If you write maker identify as IEN - 8524

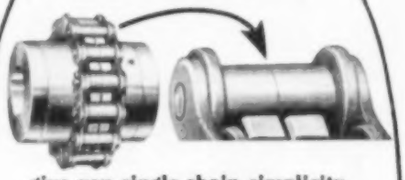


SPRACO NOZZLES

Write for NOZZLE CATALOG *to*
SPRAY ENGINEERING CO.
110 CENTRAL STREET • SOMERVILLE 43, MASS.

If you write maker identify as IEN - 8525

Only LINK-BELT "RC" FLEXIBLE COUPLINGS . . .



give you single-chain simplicity, plus divided rollers

It's Link-Belt's exclusive design that makes the difference! No other Roller Chain Coupling offers the simplicity of single-width chain combined with these operating advantages: Equalize load, maintain proper balance at high speeds, adjust to reasonable misalignment and end float. Link-Belt's complete line of "RC" Roller Chain Couplings covers all sizes from fractional to 1000 hp. You can get all the facts from Folder 2363.

"RC" Couplings available in 30 sizes, ¾ to 12 in. bore.

LINK-BELT COMPANY

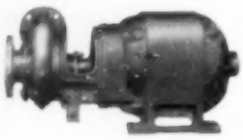
Chicago 9, Indianapolis 6, Philadelphia 40, Atlanta, Houston 1, Minneapolis 5, San Francisco 24, Los Angeles 33, Seattle 4, Toronto 8, Springs (South Africa), Sydney (Australia). Offices, Factory Branch Stores and Distributors in Principal Cities.

LINK-BELT
"RC" FLEXIBLE COUPLINGS

If you write maker identify as IEN - 8526

Where space is a problem . . .

GOULDS "Close-Cupld"



Centrifugal Pump is the answer

If you're looking for dependable, 24-hour-a-day pumping efficiency, yet are limited in space—you will find the Goulds Fig. 3650 "Close-Cupld" centrifugal pump ideal. This versatile, adaptable pump is a self-contained unit. It needs no space-consuming special foundations. There's no necessity for an unwieldly base plate to support pump and motor. This compact design also assures quick, easy installation—cutting costly labor time.

The Goulds Fig. 3650 is available in 17 sizes, with capacities up to 2000 G.P.M. Heads up to 400 ft. For complete information, call your Goulds representative, or send for Bulletin 210.1.

Goulds PUMPS INC. Seneca Falls New York

If you write maker identify as IEN - 8527

SURPRISING SAVINGS

Reported by Users of

STANDARD PNEUMATIC TUBE SYSTEMS

Safe—swift delivery by "AIR" of messages . . . money . . . merchandise!

Savings as high as $10,000 in 9 months' time are reported by users of Standard Pneumatic Tube Systems — filling orders, moving merchandise, money, messages, records, between departments. Reduce messenger and telephone service. Can be installed for a wide range of needs in stores, warehouses, manufacturing plants, offices. Write for Bulletin No. 11 and complete information — address Dept. IEN-82.

STANDARD CONVEYOR CO.
North St. Paul 9, Minn.

Write for Bulletin No. 11 — Standard Pneumatic Tube System. Address Dept. IEN-82

Standard GRAVITY & POWER CONVEYORS

If you write maker identify as IEN - 8528

Keep floors dry and safe with Carey Asbesto-Sorb

oil-grease-liquid *absorbent compound approved by Underwriters' Laboratories, Inc.*

Let thirsty, fire-resistant Carey Asbesto-Sorb "soak up" danger underfoot—keep your floors dry and safe, prevent accidents. Recommended for use on all floor surfaces. Economical, a little absorbs a lot! Ask your Carey Industrial Sales Engineer for a sample—or mail coupon today

Send for **FREE** Sample!

SERVING INDUSTRY SINCE 1873 Carey

THE PHILIP CAREY MFG. CO.
Dept. AS, Lockland, Cincinnati 15, Ohio
Please send me FREE sample of Asbesto-Sorb
Name
Company
Address
City Zone State

USEFUL NEWS NOTES INFORMATION

If you write maker identify as IEN - 8529

ALUMINUM . . Dictionary of terms for aluminum sheet, plate, extruded, tubular products

Aluminum Association
420 Lexington Ave., Room 1747, New York 17, N. Y.

"Nomenclature" titles new 20-page booklet intended to promote understanding between producer and consumer of aluminum. It defines sheet and plate products, then lists miscellaneous terms that apply, from blisters to whip marks. Similar information is given on extruded and tubular products from angularity to water stains.

If you write maker identify as IEN - 8530

BUILDINGS . . Glass block for windows in new and existing buildings is described in booklet

American Structural Products Co.
538 Ohio Bldg., Toledo 1, Ohio

Pictures are used in new 24-page "Daylight for Industry" booklet to show the functions and advantages of light-directing glass block for window areas. Text covers subjects such as how contrast affects seeing, how daylight is transmitted, principles of efficient use of glass block, modernization of existing buildings to replace sash with glass block.

If you write maker identify as IEN - 8531

CARBIDE PARTS . . How they are made by machining preforms is told in technical reprint

Adamas Carbide Corp.
998 S. 4th St., Harrison, N. J.

Steps in manufacture of cemented tungsten-carbide parts are described by pictures and captions in a 4-page reprint folder of a technical article offered on request. Emphasis is placed on machining of presintered parts into approximate shape before final sintering. Notes are included on the practical limits of the manufacturing method.

If you write maker identify as IEN - 8532

CASTINGS . . Specification chart presents information on some 70 classes of steel castings

Steel Founders Society of America
920-A Midland Bldg., Cleveland 15, Ohio

Standard specifications are summarized in tabular form by new 11½ by 17-in. chart, available upon request. It groups steel castings by ASTM, SAE, Federal QQ, Military MIL specification numbers along with corresponding mechanical properties, heat treatment, chemical composition of the constituents for some 70 classes of steel castings.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8533

A PAID NEWS ADVERTISEMENT BY BOSTITCH

FASTENING — Stapling pliers now get more power from less effort on more jobs

Bostitch P6 Stapling Pliers have scientifically engineered cam-and-roller action that drives and clinches ¾" staples through work up to ¼" thick. ½" staples are available for thinner work. Staples can be applied up to 2¾" in from edges.

Three models cover a wide range of applications.

P6-8 uses .050 x .019 wire staples on materials that are not easy to penetrate, such as multi-wall bags, canvas, corrugated board, flexible corrugated wrappings, and other materials requiring a broad wire for good holding power.

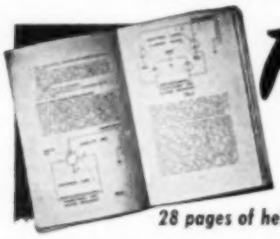
P6-6 uses .026 x .019 wire staples on materials of moderate weight, such as heavy paper bags, thick groups of correspondence or records, and a lot of jobs beyond the capacity of a desk-type stapler.

P6-12 uses .019 round wire staples on easy-to-penetrate materials where the strong, plier-type action is an advantage over other stapling tools.

Serves also as a tacker. Ask for Bulletin 201.

BOSTITCH
466 Mechanic Street • Westerly • Rhode Island

If you write maker identify as IEN - 8534



Free! FROM WESTERN PRECIPITATION

28 pages of helpful facts about

COTTRELL ELECTRICAL PRECIPITATORS

THIS HELPFUL 28 PAGE BOOKLET — Prepared by Western Precipitation Corporation, *pioneers in the commercial application of* COTTRELL *Precipitators* — summarizes and illustrates many of the basic facts you should know about COTTRELL Precipitators for use in recovering industrial dusts, mists, fogs, fumes, fly ash and other suspensions from gases. Written particularly to answer questions of design engineers, plant engineers and others interested in COTTRELL Precipitators, this booklet outlines the various types available, how they operate, principal types of electrical systems and rectifiers, shell construction, other helpful data.

As long as the supply lasts, a free copy will be sent on request to our nearest office. Write for Bulletin No. C103 today!

WESTERN Precipitation CORPORATION
ENGINEERS, DESIGNERS & MANUFACTURERS OF EQUIPMENT FOR COLLECTION OF SUSPENDED MATERIALS FROM GASES & LIQUIDS
Main Offices: 1011 WEST NINTH STREET, LOS ANGELES 15, CALIFORNIA
CHRYSLER BLDG., NEW YORK 17 • 1 LaSALLE ST. BLDG., 1 N. LaSALLE ST., CHICAGO 2 • HOBART BUILDING, SAN FRANCISCO 4, CALIFORNIA
PRECIPITATION CO. OF CANADA, LTD., DOMINION SQ. BLDG., MONTREAL

If you write maker identify as IEN - 8535

FAIRBANKS-MORSE,
a name worth remembering

SCALES • DIESEL LOCOMOTIVES AND ENGINES • ELECTRICAL MACHINERY • PUMPS HOME WATER SERVICE EQUIPMENT • RAIL CARS • FARM MACHINERY • MAGNETOS

If you write maker identify as IEN - 8537

AIR POWERED DRILL UNIT FEATURES ELECTRICAL CONTROL, HYDRAULIC CHECKING

The Bellows HYDRAIR POWER FEED DRILL is a precision air powered drilling device providing rapid advance, controlled feed, and rapid return. It will handle drills up to 1¼" and will drill to a depth of 4".

Standard rated free spindle speed 2800*. Rated ¼ h.p. Air driven spindle; air-powered, hydraulically checked feed; electrically controlled cycle. Mounts at any angle.

*Other Speeds Available on Special Order.

Get This FREE BOOKLET

Specifications, technical data, diagrams of The Bellows HYDRAIR. Address: The Bellows Co., Dept. IEN-852-1, Akron 9, Ohio.

The Bellows Co.
AKRON 9, OHIO

If you write maker identify as IEN - 8538

Towmotor loading a truck at Welch Grape Juice Company, North East, Pa.

cut production costs . . . let Towmotor-hours replace costly man-hours. Increase capacity, maintain profits with a Towmotor fork lift truck. Towmotor handles *all* types of material. For the name of your nearest Towmotor representative and copies of Job Studies covering your industry, write Towmotor Corporation, Div. 26, 1226 E. 152nd Street, Cleveland 10, Ohio. Representatives in all principal cities in U.S. and Canada.

TOWMOTOR THE ONE MAN GANG — **FORK LIFT TRUCKS and TRACTORS**

RECEIVING • PROCESSING • STORAGE • DISTRIBUTION

If you write maker identify as IEN - 8539

Grease Monkeys are loafing —since Transall took over

Pre-Lubricated
Belt Conveyor Idlers

No Lubrication Labor
No Lubricant Cost

TRANSALL INC.
Manufacturers of a complete line of Belt Conveyor Equipment
117 North 11th St. Birmingham 4, Ala.

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN - 8540

CRUSHING . . How to select a crusher described in non-technical manner by new bulletin

Pennsylvania Crusher Co.
Arch & Broad Sts., Philadelphia 7, Pa.

Four basic methods of mechanical reduction: impact, attrition, shear, pressure, are described in new 12-page Bulletin 452 as a basis for selection of a crushing machine. The bulletin also shows three arrangements for closed-circuit grinding.

If you write maker identify as IEN - 8541

DEFENSE PRODUCTION . . Small business teams with big business in manufacture of a jet engine

General Electric Co.
Dept. 6X-201, Schenectady 5, N. Y.

Descriptive title, "It Takes All of Us", answers the initial question in new 32-page Booklet GED-1508A: "What kind of business makes the best defense contractor?" The booklet used manufacture of a jet engine as an example, notes that 80 per cent of the 4,000 suppliers to the company's Aircraft Gas Turbine Division are "small business." It answers the question of who gets the jet engine dollar, goes into detail on the answer to why have a prime contractor for jet engines by showing what is involved.

If you write maker identify as IEN - 8542

DRILLING . . Useful information on drilling tools, methods of use, troubles and remedies

National Automatic Tool Co.
49 National St., Richmond, Ind.

Second Edition of "Drills and Drilling Practice" is a 62-page plastic-bound book that lists at $1. It is based on the company's experience, is intended to assist you in drill application. It describes drill types, drilling methods, drill failure and reasons. Specific recommendations are given for drilling materials from cast iron to stainless steel.

If you write maker identify as IEN - 8543

DUST COLLECTING . . Application stories on cloth-filter collectors in new house publication

American Wheelabrator & Equipment Corp.
1119 S. Byrkit St., Mishawaka, Ind.

Vol. I No. 1 of "Dust and Fume Topics" describes how Dustube collectors are employed to pick up lead-oxide dust in battery making, how they saved heat in a woodworking plant, how they salvaged mica in a shingle-making plant. Future issues will describe applications and design features which may suggest a solution to you. Your name will be added to the list upon request to receive the publication regularly.

If you write maker identify as IEN - 8544

EXTRUDING . . Picture book shows steps in manufacture of feed screw for extruding machine

National Rubber Machinery Co.
51 W. Exchange St., Akron 8, Ohio

Captioned pictures show the manufacturing sequence for an extruder feed screw in new 20-page booklet, "19 Steps to Better Extrusions." First step stresses importance of feed-screw design as the basis for proper operation of a plastic-extruding machine. Succeeding steps show the operations from rough forging to final polishing and inspection.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8545

A MIRACLE? No—merely common sense. Just clamp a SERVIS RECORDER on each of your present machines. That little "watch dog" of your production schedules will act as a time clock for your machinery, recording on its chart *ALL* stops and delays, day and night. (Even down to 10-minute periods.) Thus when you can *see* it all right before your eyes, you can plan to eliminate that *down time* and thereby increase production. It's all that simple. Write today for our folder—"A BUSY PLANT." The Service Recorder Co., 1375 Euclid Ave., Cleveland 15, Ohio.

The Servis Recorder
The Time Clock for Machinery

If you write maker identify as IEN - 8546

KOROSEAL TANK LININGS

• Longer Wearing
Corrosion Resistant
No Contamination

Developed and pioneered by Udylite, Koroseal "welded" tank linings are ideal for metal finishing operations. Koroseal resists virtually all acids and corrosive solutions. It shows minimum absorption of chemicals and will not contaminate the plating bath. Koroseal is not affected by oil or grease and is highly resistant to abrasion. It will not oxidize or plate up, and its high electrical resistance prevents current loss.

Udylite Koroseal tank linings are applied at the factory by specially trained workmen using equipment and methods developed by Udylite for this express purpose. However, if conditions require, tank linings can be successfully applied by Udylite craftsmen in your plant. For more information about Udylite Koroseal tank linings call your Udylite Technical Man or write direct.

Pioneer of A Better Way in Plating

THE Udylite CORPORATION

If you write maker identify as IEN - 8547

FROM BANJO STRINGS TO AIRPLANE WINGS . . .

You can test practically anything with a versatile **RIEHLE** Universal Testing Machine. Every machine has 5 standard scale ranges, so that it is actually the equivalent of 5 testing machines in one. You can test small specimens with a relatively low-rupture-point (banjo strings, for example) or large high-yield-point specimens (like airplane wings) on the same Riehle machine. Ask your Riehle representative or write our factory for illustrated catalogs on Riehle Universal Testing Machines with hydraulic loading unit or screw power loading unit.

RIEHLE TESTING MACHINES
Division of American Machine and Metals, Inc.
East Moline, Illinois

If you write maker identify as IEN - 8548

CONTROL dust with DUCON CYCLONE COLLECTORS

DUCON HIGH EFFICIENCY COLLECTORS are widely used in all industries. Recover dust to reclaim valuable by-products or control dust to prevent air pollution.

Cyclone type separators built with non-turbulent gas inlets to insure a smooth flow, without destructive eddy currents.

Only DUCON Cyclone is equipped with inlet control and vortex shield for highest performance efficiency.

Custom-built, single or multiple units, with proper balance of shape, size and vortex shield in relation to air velocity.

Expertly engineered, scientifically designed; simple, sturdy construction for continuous, heavy duty service.

Let a DUCON engineer help you solve your dust problem.

Write for Catalog DC49-1

The DUCON Co.
MINEOLA, N. Y.

If you write maker identify as IEN - 8549

If Your Paint Spray Booth Is A Space, Installation or Hazard Problem

PAINT ARRESTORS CAN SOLVE IT FOR YOU

R.P. Paint Arrestors—easily, economically installed under the floor grill—make the automotive paint-fix effective system of stopping removal.

WRITE FOR FREE BOOKLET

Helpful, informative suggestions to solve your paint spray booth problems. Write today.

RESEARCH PRODUCTS CORPORATION
MADISON 10, WISCONSIN

RP . . . PRODUCTS OF RESEARCH

If you write maker identify as IEN - 8550

CONVERTIBLE CIRCUIT-BREAKER BOARD—15 to 600 amps, maximum flexibility in a breaker board.

CONVERTI-FUSE PANELBOARD—30 to 400 amps, most compact distribution board available.

Each panelboard you buy must do a special group of jobs...

. . . it's got to "exactly fit" a number of completely different conditions. That's why Trumbull builds enough *different* types of panelboards to handle every possible kind of service while *standardizing* construction to make it "a breeze" to fit the *special* combination of requirements each board must meet. *It's the broadest line available anywhere!* Send for bulletin today.

TRUMBULL ELECTRIC

DEPARTMENT OF GENERAL ELECTRIC COMPANY
PLAINVILLE, CONNECTICUT

If you write maker identify as IEN - 8551

CROWN MOTOR REPAIR SHOP EQUIPMENT

Time-Savers to Cut Costs On Motor Repair Jobs

Shorten the time it takes to put a motor through the repair shop and you reduce costs or increase your profits. CROWN Motor Repair Shop Equipment is designed by practical electrical men to increase shop volume and quality without increasing payroll. Every item in the CROWN Line has proved in shop practice to pay for itself many times over. Economical in first cost.

GET THIS FREE CATALOG TODAY!

CROWN INDUSTRIAL PRODUCTS CO.
402 Boréen Ave., Sycamore, Illinois
Please send me your new catalog of motor repair shop equipment.
NAME
COMPANY
ADDRESS
CITY ZONE STATE

Mail the Coupon

USEFUL INFORMATION

(Continued)

If you write maker identify as IEN - 8552

EQUIPMENT . . Converted machine tools for special work are shown in new house publication

Simmons Machine Tool Corp.
1010 N. Broadway, Albany 1, N. Y.

Vol. I No. 1 of "The Simmons Way" shows several examples of special or increased-capacity equipment built to specification by the company. These include lathes, drills and boring machines. Examples also are given of the company's machine-tool rebuilding service, showing the steps involved. Your name will be added to the mailing list to receive the publication.

If you write maker identify as IEN - 8553

FASTENINGS . . Rivet selector reads data on clinch allowance, assembly hole size and head diameter

Chicago Rivet & Machine Co.
9602 W. Jackson Blvd., Bellwood, Ill.

First you set an inner slide to the size and type of rivet shown actual size on the circumference of new 4-in. circular cardboard Rivet Selector. These rivets range from .060 to 5/16 in. in body diameter, tubular and split, flat and round head. Then you read at a window the clinch allowance, recommended hole diameter, head diameter, and catalog numbers in steel and brass of the rivet you have selected.

If you write maker identify as IEN - 8554

FASTENINGS . . Plastic drafting template for company's Hi-Shear rivet is offered on request

Hi-Shear Rivet & Tool Co.
8922-26 Bellanca Ave., Los Angeles 45, Calif.

Yellow Vinylite sheet is punched with openings and contours to form new rivet drafting template 6¼ by 9¾ inches. Accompanying instructions tell how to draw "Hi-Shear" rivet outlines in plan and side view, how to draw flat, countersunk or brazier-head rivets, how to draw the rivet full or half scale. The company offers the template without charge.

If you write maker identify as IEN - 8555

FASTENINGS . . Eyelets and setting methods are described by new 12-page information booklet

Edward Segal
70-74 Spring St., New York 12, N. Y.

Selection of eyelets by intended application is introductory section of new "Eyelet Setting Data" booklet. The booklet then describes eyelet materials, methods of setting eyelets, troubles and remedies, operating suggestions.

If you write maker identify as IEN - 8556

FORGINGS . . Pictures trace progress from die making to shipping in new booklet on forgings

Kropp Forge Co.
5402 W. Roosevelt Road, Chicago 50, Ill.

Camera studies with brief captions are employed in new picture booklet "This is Kropp", to show how forgings are made. They also show personnel and equipment involved as well as the range of forgings produced. The 28-page booklet includes pictures of the company's subsidiary, A. C. Woods & Co., and its facilities for fabricating steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN - 8557

HERE'S HOW IT WORKS!

POSITIVE AUTOMATIC

YOU DON'T HAVE TO KICK THE BUCKET TO CLEAR IT—IF IT'S AN M-T-MATIC

Irresistible leverage sweeps out SAND—COAL—GRAVEL, or any granular materials, on every trip—*even if frozen or close-packed.* The secret is the separately mounted stripper-plate—which must push up and out when it starts over pulley radius. THOUSANDS NOW IN USE—handling *more* material at same or faster belt speeds. Saves belts—cuts maintenance—easy to install on any elevator conveyor—all sizes.

Standard buckets also available . .

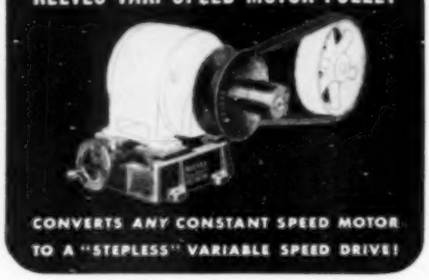
★ Send for prices today (give present bucket size)

QUICK DELIVERY!

PEKAY MACHINE & ENGINEERING CO.
100 N. LA SALLE STREET CHICAGO 2, ILLINOIS

If you write maker identify as IEN - 8558

REEVES VARI-SPEED MOTOR PULLEY



CONVERTS ANY CONSTANT SPEED MOTOR TO A "STEPLESS" VARIABLE SPEED DRIVE!

For Stepless Speed Adjustability Within 4:1 Range. Sizes to 10 Horsepower

1 Mount Your Motor on This REEVES Motor Base. Base includes sliding platform and handwheel for moving motor forward or back.

2 Apply This Disc Assembly to Motor Shaft. Consists of two cone-shaped discs, one sliding laterally, and compression spring.

3 Connect to Driven Machine with REEVES V-Belt. Place V-belt between discs and over pulley on power input of driven machine.

For complete details, send for FREE *Catalog IN 11c G*

REEVES PULLEY COMPANY · COLUMBUS, INDIANA

Recognized Leader in the Specialized Field of Speed Control Engineering

If you write maker identify as IEN - 8559

Machine de-burring with NOBUR *pays BIG production dividends!*

NOBUR Tools *turn a slow bench operation into fast and efficient machine work!* Remove burrs on multi-walled parts with a smooth, clean cutting action that won't mar highly finished surfaces. Eliminate rejects from slow, costly hand work with files, scrapers and abrasives.

Nobur Tools are used on any lathe, drill press, portable drill or flexible shaft. Operation of the double-edge cutting blade is easy and safe . . . no skilled help is required, and the spindle never needs to be stopped for either de-burring or chamfering.

Nobur Tools cut freely on either hard or soft metals, are simple in construction and are made in sizes to cover a full range of hole diameters. ***NEW "DS" SERIES extends range of NOBUR applications to holes as small as 1/8" diameter. WRITE FOR FULL DETAILS TODAY!**

Parts like these quickly de-burred with

NO BUR TOOLS

NOBUR MANUFACTURING COMPANY
717 N. VICTORY BLVD., BURBANK, CALIF.

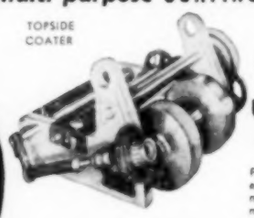
If you write maker identify as IEN - 8560

60 years of dependable service

POTDEVIN

multi-purpose COATING MACHINES *for* TOP-SIDE *or* UNDERSIDE COATING

TOPSIDE COATER



For use as a self contained and self powered unit or for mounting on other equipment—for topside or underside solid or strip coating. Particularly suited for applying resins, varnish, adhesive, lacquer, etc., to webs or sheets of paper or other materials in widths up to 21 inches. Ductor roller adjustment controls amount of coating applied. Removable reservoir and coating rollers permit thorough quick cleaning.

UNDERSIDE COATER

Write for full particulars

POTDEVIN MACHINE CO.
213 North Street Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling.

If you write maker identify as IEN - 8561

AO One Piece ALL PLASTIC GOGGLE

AO's NEW INEXPENSIVE ALL PLASTIC GOGGLE

LIGHTWEIGHT
NON-FOGGING
WELL-VENTILATED
NON-FLAMMABLE
WELL-FITTING

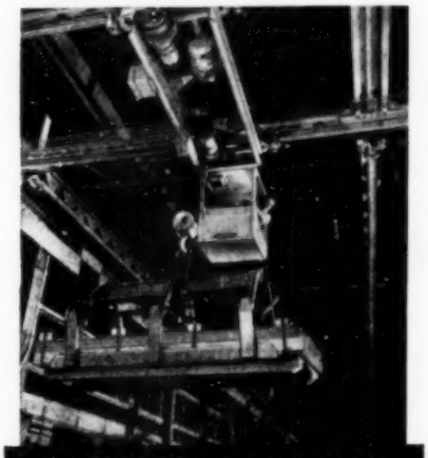
Made of impact resistant plastic, this one-piece goggle (AO479 Clear, AO480 Green) is "optically correct" and meets government specifications. It affords exceptional wide angle vision and can be worn over most standard types of personal glasses and most prescription spectacles and goggles. Recommended for protection against foreign particles striking from any direction on the following types of work: babbitting, chipping, cutting rivets, grinding, hand-tool operations, machine operations, spike driving and similar operations. Your nearest AO Safety Products Representative can supply you.

American Optical SAFETY PRODUCTS DIVISION

Southbridge, Massachusetts • Branches in Principal Cities

If you write maker identify as IEN - 8562

ECONOMICAL SHEET HANDLING



LOUDEN OVERHEAD HANDLING OF SHEET STEEL PAYS FOR ITSELF QUICKLY, AND YIELDS TREMENDOUS SAVINGS IN MAN-HOURS . . .

To meet the mill practice of shipping sheet steel in five-ton bundles, it is almost mandatory that fabricators likewise use overhead handling equipment. Otherwise expensive man-handling and inefficient transportation inside the plant are inescapable. Further, steel prices are higher when sheets are shipped in less than five-ton bundles.

Louden Monorail equipment permits bundles to be hoisted intact from railroad cars and moved to storage or the start of a fabricating process anywhere inside the plant. Then, the same equipment may be used for intermediate handling steps in the fabricating process.

WRITE FOR THIS FREE BOOK

Case histories telling how Louden Monorail Systems have saved time and money for widely different kinds of industries are described and pictured in a new, illustrated 56-page book called, "Economical Material Handling".

THE LOUDEN MACHINERY COMPANY
5116 S. Superior Ave., Fairfield, Iowa

Louden

OVERHEAD MATERIAL HANDLING

If you write maker identify as IEN - 8564

CONVEYING . . Pneumatic tubes and carriers, both transparent plastic

Source: AIRMATIC SYSTEMS INC.
150 Charles St., New York 14, N. Y.

The action is visible

Transparent tube made of Tenite plastic can be specified now in place of steel, brass or aluminum in the tube lines of the company's pneumatic conveying equipment to handle carriers also made with transparent plastic housings, previously described IEN-7300-46. The equipment is available to handle these carriers or to transport paper strip such as ticker tape between two or more points.

Tube sizes range from 1¼ in. in diameter to 4 by 7-in. oval. Movement through the tubes is by a combination of air pressure and vacuum. The company is prepared to supply engineering service, make installation layout recommendations.

If you write maker identify as IEN - 8565

PACKAGING . . Self-adhesive tape, water tight seal, range of colors

Source: INDUSTRIAL TAPE CORP.
Highway One, New Brunswick, N. J.

For apparatus meters, parts

Cotton cloth employed as the backing for the company's new Permacel 49 tape is coated with a self-adhesive plastic for overseas and waterproof packaging. It is particularly suited to protect delicate equipment. The tape is supplied in case lots of 60-yd. rolls and is available in specified width.

If you write maker identify as IEN - 8566

ELECTRIC WIRE . . Plastic insulated, flat parallel conductor for telephones

Source: WHITNEY BLAKE CO.
1563-67 Dixwell Ave., Dept. F, Hamden, Conn.

Staples hold it in place

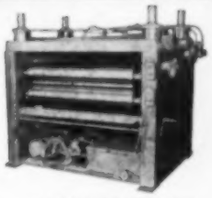
Soft copper conductors made of 22-gage wire are insulated with polyvinyl chloride compound and arranged in flat assembly in two and three conductor styles in this new telephone wire. The insulation can be specified in ivory or brown color. Installation can be made by stapling with a lever operated tool supplied by Bassick Company for this purpose. The web joining the adjacent conductors can be ripped without difficulty to produce separate insulated conductors. One is tinned to identify polarity.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8567

UNION AUTOMATIC COMPOUND SPREADERS

SAVE *8 WAYS



1 "Die life increased 75%."
2 "Production increased 20%."
3 "Compound saving of 16%."
4 "Rejects reduced 10%."
5 "One helper eliminated."
6 "Paid for itself in 54 days."
7 "Able to use salvage stock for some operations."
8 "25,000 more pieces before changing dies."

MODELS TO FIT ANY STOCK UP TO 96" WIDTH

Union is the foremost designer and manufacturer of roller coating machines for application of drawing or stamping compounds and protective coatings.

Models may be equipped with hardened steel, or with neoprene-covered rolls—also with heated or cooled rolls—to meet your individual requirements.

*The above claims are based on actual statements by users, both large and small—a number of whom have ordered a second and third machine.
Complete data and agent's name on request. Union will design and/or manufacture coating machines to meet your specific requirements.

UNION TOOL CORP.
316 E. MARKET ST., WARSAW, IND., U.S.A.

USERS SAY UNION CUTS COSTS, SPEEDS PRODUCTION

If you write maker identify as IEN - 8568

Wear a DUPOR No. 10 Chemical Cartridge Respirator

Code "A" Cartridges (Soda Lime)—White Plastic for light concentrations of inorganic acid gases.

Code "B" Cartridges (Activated Charcoal)—Black plastic for light concentrations of organic chemical vapors.

Code "AB" Cartridges (Soda Lime and Activated Charcoal)—Yellow plastic for light concentrations of combined inorganic and organic gases.

Unit has DUPOR "controlled-breathing" valves. Double filter apertures hold 50cc. capacity chemical cartridges. Soft rubber face mask gives gas-tight fit on any shape face, as well as panorama view with no blind spots. Chemical filters are packed in colored plastic cartridges that will not corrode like metal ones or crush like paper types. Unit is shipped with code "B" cartridge unless otherwise specified.

Sample set
$5.00 pp

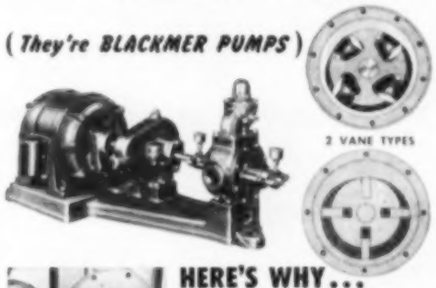
Extra Cartridges 70c a set

H. S. COVER, South Bend, Ind.

If you write maker identify as IEN - 8569

YOU NEVER SCRAP PUMPS LIKE THESE!

(They're BLACKMER PUMPS)



2 VANE TYPES

HERE'S WHY . . .

Blackmer Rotary Pumps are self-adjusting for wear. When finally worn out, change the vanes, like changing blades in a razor, and you save the cost of a new pump.

Learn how Blackmer's two vane types offer the most efficient pump for your specific applications. Write for Folder "G-1-A" . . .

BLACKMER PUMP CO., GRAND RAPIDS, MICH.

If you write maker identify as IEN - 8570

Deliver Exact Pressure!

Hein-Werner "Push and Pull" Hydraulic Jack with gauge attached

Exert the exact pressure you need without guesswork or hit-and-miss methods. Just use a HEIN WERNER 10 ton or 20 ton "Push and Pull" Hydraulic Jack equipped with pressure gauge. These powerful jacks have a highly accurate, factory installed gauge calibrated for pressure in tons, with separate readings for push and pull. A red indicating needle shows the highest pressure on either push or pull and remains at that point until set back. A black needle shows the pressure prevailing during a pushing or pulling operation. Get all the facts from your industrial supply distributor or write us.

Hein-Werner HYDRAULIC JACKS

HEIN-WERNER CORPORATION • WAUKESHA • WIS.

If you write maker identify as IEN - 8571

"HOOO ON WHEELS"!

LATEST DICO'S Free CATALOG EDITION

. . . Sure Speedy HELP On Your WHEEL PROBLEMS

The latest edition of the DICO Company's WHEEL CATALOG HELPS you by answering your high speed and low speed wheel engineering problems — with simplified information and specifications on your needs of dependable, high-grit quality DICO Wheels. So Long, YOU Get This "HELP ON WHEELS"!

A modern line of industrial wheels 6"-22" rubber diameter.

DICO COMPANY

Write TODAY!

202 S.W. 16th ST., DES MOINES, IOWA

If you write maker identify as IEN - 8572

WE MAKE ALL TYPES OF PLUG VALVES . . . including the right one for your needs

We are the only manufacturer who makes *all* of the various types of plug valves used in industry . . . LUBRICATED . . . NON-LUBRICATED . . . FULL PORT . . . VENTURI. We have no "leaders." *We make them all;* therefore, we have no reason to "push" one type valve over another. Our only concern is to see that you get the *right* valve for *your* requirement.

To help you keep this in mind the next time you need plug valves, we'd like to send you our catalog. Why not write for it today.

HOMESTEAD VALVE MANUFACTURING COMPANY

"Serving Since 1892"

P. O. BOX 85 CORAOPOLIS, PA.

If you write maker identify as IEN - 8573

MORE POWER . . . BETTER PLANT LAYOUT

When Lacy Manufacturing Company of Los Angeles, one of the largest steel fabricating plants, modernized their drop hammer by replacing a line shaft drive with a Sterling Slo-Speed, reports Mr. C. H. Stiles, more power was made available . . . morale of personnel was improved because the drop hammer was moved closer to the forge and greatly reduced effort required for movement of material from forge to hammer . . . power costs are less and the hammer is ready for use at the touch of a finger.

STERLING SLO-SPEED OUTSTANDING FEATURES:

Simplified gear system—balanced design—compact—rugged — highly efficient — abundant lubrication—low output shaft—positive oil seals — Herringbone Rotor — protected — streamlined — direct through ventilation — quiet operation — AGMA speeds — extremely long life — every unit will operate in any position.

70 ILLUSTRATIONS showing how Sterling Electric Power Drives reduce production costs. Write for Bulletin No. D-127.

STERLING ELECTRIC MOTORS

Plants: New York City 51, Van Wert, Ohio, Los Angeles 22, Hamilton, Canada, Santiago, Chile. • Offices and distributors in all principal cities.

USEFUL INFORMATION

(Continued)

If you write maker identify as IEN - 8574

GAGES . . Movie shows methods of dimensional gaging by a variety of equipment

Federal Products Corp.
1140 Eddy St., Providence 1, R. I.

"Gaging for Profit" titles new 16 mm. color sound film which the company will loan you without charge. It shows practically all known methods of gaging by micrometers, dial indicators, electro-mechanical, pneumatic, automatic sorting gages, continuous measuring gages. Application scenes are included together with use of indicating gages in statistical quality control. Running time is 38 minutes.

If you write maker identify as IEN - 8575

GAGES . . Selection and use of dimensional gages presented as series of suggestions

Sheffield Corp.
719-23 Springfield Ave., Dayton 1, Ohio

Gaging policy in a manufacturing plant is the subject of new 36-page booklet, "Dimensional Control and Gaging Policy", for which single copies are available upon request. The booklet covers such topics as allocation of gage tolerance, wear allowance, ordnance practice, human error, when to use instruments, importance of amplification, automatic gaging.

If you write maker identify as IEN - 8576

LUBRICATING . . Recommendation chart for construction equipment in house publication issue

Fiske Brothers Refining Co.
127-31 Lockwood St., Newark 5, N. J.

June issue of "Lubriplate Sales Topics" is devoted to lubrication of construction equipment. It contains several articles on the subject along with a table of recommended lubricants for parts from bearings to water pumps. One article describes results in service at 50 deg. below zero. Your name will be added to the mailing list upon request.

If you write maker identify as IEN - 8577

MAGNESIUM . . Foundry practice for making permanent-mold castings in magnesium alloys

Dow Chemical Co.
913-17 Jefferson Ave., Midland, Mich.

Bulletin DM-101a is a 16-sheet assembly of information on permanent-mold casting practice for magnesium, revised recently to include the latest modifications in operating procedure. It covers design of castings and molds, mold coating, melting, pouring, safety. Drawings show equipment used.

If you write maker identify as IEN - 8578

MAGNIFYING . . How to pick a magnifier and how to use one is described in new information booklet

Bausch & Lomb Optical Co.
556-60 Bausch St., Rochester 2, N. Y.

"Industrial Magnifiers" is the title. "How to choose and use them" is the subtitle for new 24-page Booklet I-67. It answers such questions as what is a magnifier and why so many different kinds, tells how to select one by considering working distance, magnification and field of view, definition of a corrected lens, requirements of a good lens. Instructions tell how to use a magnifier. Company's line is presented.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8579

HEAVY DUTY ALUMINUM STEP LADDERS

Proven performers in all types of industrial plants. Prized by Contractors for resistance to twist or wobble. An unexcelled value for heavy service.

Also complete line of ladders and scaffold planks. Every one tested in service.

LOUISVILLE LADDER COMPANY

1101 W. Oak St. — Dept. 8A — Louisville 10, Ky.

If you write maker identify as IEN - 8580

REED ENGINEERING COMPANY

1009 W. Fairview Carthage, Mo.

M-4 OFFSETTER

REED OFFSET FORMING MACHINE

- IMPROVES AUTOMATIC WELDING PRODUCTION BY ELIMINATING CHILL-RINGS & BACKING BARS
- FORMS OFFSET, WELD-BACKING JOGGLE FROM TANK SHELL
- LOOSENS MILL-SCALE & RUST
- IMPROVES SHELL ROUNDNESS, SPEEDS FIT-UP

IN TWO MODELS

M-2 — 1/16 TO 3/16 IN. PLATE
M-4 — 3/16 TO 7/16 IN. PLATE

WRITE FOR BULLETIN 81

✶ MODERN METALWORKING MACHINES
✶ BENDING ROLLS ✶ WELDING FIXTURES
✶ FORMING MACHINES ✶ TURNING ROLLS
✶ SPECIAL MACHINES & FIXTURES

If you write maker identify as IEN - 8581

No Noise
No Vibration
No V-Belt Drives

THE SWECO SEPARATOR

Single or multi-deck vibrating screen employing an entirely new screening motion ★ No substructure vibration ★ Greater production capacities ★ Handles wet or dry materials ★ Laboratory accurate classifying and dewatering up to 325 mesh ★ Only 3 moving parts ★ Guaranteed screen cloth life ★ Lower maintenance and power requirements.

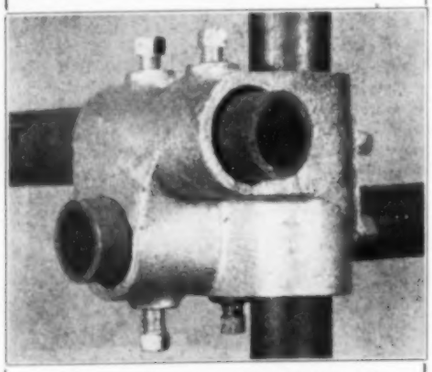
Southwestern Engineering Company

SWECO

4800 SANTA FE AVE., LOS ANGELES 58, CALIF.
SAN FRANCISCO • PORTLAND • SEATTLE • VANCOUVER
PITTSBURGH • CHICAGO • NEW YORK • ATLANTA • WASHINGTON, D.C.

If you write maker identify as IEN - 8582

MAKE YOUR OWN SCAFFOLDS WITH PIPE



MAINTENANCE AND CONSTRUCTION MEN ARE BUILDING

Safe, durable, adjustable, frame & rolling scaffolds to suit their desire and needs for all of their easy and difficult scaffolding jobs, with:

AMIDON FITTINGS

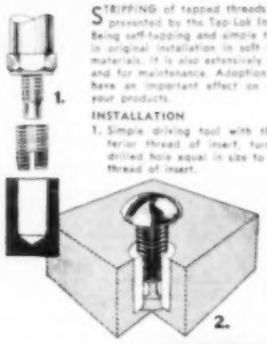
and standard pipe-pictures available

AMIDON ENGINEERING CO., ELYRIA 14, O.

If you write maker identify as IEN - 8583

TAP-LOK INSERTS*

—for strong tapped threads in soft materials



STRIPPING of tapped threads in soft materials is easily prevented by the Tap-Lok Insert—a hard steel bushing. Being self-tapping and simple to install, it is widely used in original installation in soft metals, plastics and other materials. It is also extensively used for salvage of rejects and for maintenance. Adoption of the Tap-Lok Insert can have an important effect on the cost and the sale of your products.

INSTALLATION

1. Simple driving tool with threaded stud engages interior thread of insert, turning latter into cored or drilled hole equal in size to tap drill hole for external thread of insert.
2. After insert is seated, male threaded member is driven into interior thread of insert.

*Reg. U. S. Pat. Office

Send for samples and descriptive folder.

Also manufacturers of Groov-Pins for positive locking press fit.

GROOV-PIN CORPORATION

1127 Hendricks Causeway, Ridgefield, N. J.

If you write maker identify as IEN - 8584

Figure...First!

Yes . . . it pays to figure *first* . . . instead of afterward . . . how Veeder-Root Counters can profitably be *built into* your new products, machines, or processes . . . to build up sales appeal and new markets.

Much easier to call in a Veeder-Root engineer *now*, than waiting until *later*, when your design is in production.

And remember that you can count on Veeder-Root to help you, consistent with defense commitments.

VEEDER-ROOT INCORPORATED

"The Name That Counts"

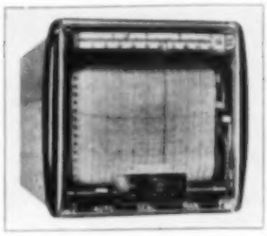
HARTFORD 2, CONNECTICUT

Chicago 6, Ill. • New York 19 • Greenville, S.C. • Montreal 2, Canada
Dundee, Scotland • Offices and Agents in Principal Cities

If you write maker identify as IEN - 8586

CONTROL . . Pneumatic instruments regulate flow, pressure, temperature

Source: FOXBORO CO.
42 Neponset Ave., Foxboro, Mass.



Ask for Bulletin 463

Model 53 strip chart recorder, Model 58 pneumatic controller and Model 59 pneumatic controller are new additions to the company's line of pneumatic instruments trade named Consotrol. The new units supplement the Model 52 controller, previously described IEN-11772-51, with its 4-in. indicating scale to provide a line of instruments particularly suited for graphic panel installation.

Model 53 recorder mounts a 4-in. strip chart to provide a 30-day process record on a single roll and to show 5 hours of chart through the housing window. A separate scale indicates valve position and the control set point. Overall panel size is 6 by 6 inches. This is the instrument illustrated.

Model 58 controller is a new floating-disc force-balance mechanism that can be mounted directly on, near by or remote from the Model 53 recorder.

Model 59 controller mounts directly on a valve-operating motor to control liquid flow where orifice and control valve are in the same line. This unit offers the opportunity to save in first cost, in installation cost and in maintenance through its combination with the control valve.

The new instruments are actuated by any standard pneumatic transmitter to control process variables such as flow, pressure, temperature. Control point can be set at the instruments. The setting is positive without back lash, lost motion or drift. Transfer can be made between automatic and manual control by turning a lever. The instrument assemblies can be drawn out of their panel positions when set in manual control. Then they are completely in the open for inspection and maintenance. Pneumatic connections are made through flexible, non metallic tubes to permit the pull-out action.

If you write maker identify as IEN - 8587

TRUCK . . Extension backrest helps to handle high loads safely

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio

Back support is provided for a high load on any one of the company's fork trucks by application of this new extension backrest. It is available in 48, 60, and 72-in. heights measured from its top down to the forks. Width ranges from 35 to 42 in. for application on any of the fork lift trucks in the company's industrial line. The extension pins into sockets welded to the standard lift carriage frame. It is removed by lifting it out of these sockets when required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8588

A complete steam plant backed by undivided responsibility • Shipped completely assembled • More than 80% thermal efficiency guaranteed • 4-pass design provides 5 sq. ft. of heating surface per b.h.p. • Built-in induced draft eliminates need of expensive chimney • Simple installation • Clean, quiet operation • Heavy-duty construction assures long-lived dependability.

Superior Steam Generators are manufactured in 18 sizes from 20 to 600 b.h.p. for pressures up to 250 p.s.i. or for hot water heating.

For complete details, write for Catalog 217

SUPERIOR COMBUSTION INDUSTRIES, Inc.
Factory: Emmaus, Pa.
Sales Offices: Times Bldg., Times Sq., New York N. Y.

SUPERIOR STEAM GENERATORS

If you write maker identify as IEN - 8589

PORTELVATOR® "S"

for extra low pick-ups and extra high lifts...

Safety of Operation

is inherent in the mechanical lift principle of this brawny tool, which transmits power through worm, worm gear, and screw.

Eliminates "ganging-up" on heavy lifts. Reduces occurrence of industrial accidents. Saves valuable production time.

Get complete information now and be ready for the challenge ahead. Write for Bulletin P-506-S.

CAPACITY	1000 POUNDS
MAXIMUM PLATFORM HEIGHT	58"
MINIMUM PLATFORM HEIGHT	6"

THE Hamilton TOOL COMPANY
955 HANOVER STREET • HAMILTON • OHIO • U • S • A

If you write maker identify as IEN - 8590

Safety is no Accident!

It's engineered into SAFWAY maintenance towers

Only Master Welders work on SAFWAY Equipment

Interchangeable parts constructed by safe, strong, lifetime welding of high carbon steel tubing.

All SAFWAY Equipment Treated with Rust Inhibitor

Maintains accurate fit of parts and fasteners to assure safe, rigid maintenance towers.

Enamel is Baked on All Surfaces, Inside and Out

Improves appearance of equipment—helps insure lasting fit of parts and long, safe life.

All SAFWAY Equipment is Engineered to Last

With only routine care, Safway equipment will deliver a lifetime of safe, efficient service.

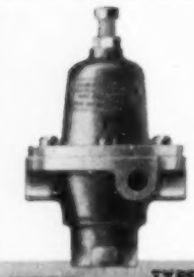
Write for Free Bulletin IEN 852

RENTED and SOLD by distributors everywhere

SAFWAY STEEL PRODUCTS INCORPORATED
6228 West State St.
MILWAUKEE 13, WIS.
Manufacturers of Tubular Steel Scaffolding and Equipment

If you write maker identify as IEN - 8592

HIGH PRESSURE REDUCING VALVE for AIR or GAS SERVICE



FISHER TYPE 1301F

INLET PRESSURE UP TO 3000 PSI OUTLET PRESSURE 10 TO 150 PSI

TYPE 1301F is commonly used in conjunction with pilot operated controllers where high pressure operating medium is used. They are also used in general industrial applications for high pressure reduction of non corrosive air or gas.

CONSTRUCTION:
All forged bronze construction with glass impregnated Teflon valve disc, stainless steel orifice. Furnished with one inlet connection and two outlet connections of ½" pipe size.

PRESSURE RANGE:
Suitable for inlet pressures up to 3000 PSI, reduced pressure spring ranges of 10 to 75 PSI, 50 to 150 PSI. Adjustment screw for easy adjustment of reduced pressure setting.

FISHER GOVERNOR COMPANY
Marshalltown, Iowa

If you write maker identify as IEN - 8593

SEE HOW General CAN CUT YOUR PACKAGING AND SHIPPING COSTS . . .

SEND FOR FREE BOOKLET

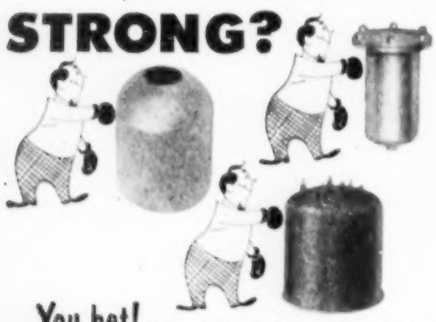
General BOX COMPANY

GENERAL OFFICES:
1815 MINER STREET, DES PLAINES, ILL.

DISTRICT OFFICES AND PLANTS: Cincinnati, Denville, N. J., Detroit, East St. Louis, Kansas City, Louisville, General Box Company of Mississippi, Meridian Miss., Milwaukee, Sheboygan, Winchendon. Continental Box Company, Inc.: Houston, Dallas.

If you write maker identify as IEN - 8594

STRONG?



You bet! Hackney Deep Drawn Parts have added greater strength and vibration resistance to many a product. Formed from one piece of sheet metal, Hackney *Seamless* Deep Drawn Shapes and Shells often eliminate welded, bolted or riveted seams. They're lightweight, too . . . their streamlined appearance adds extra sales appeal . . . and they can save production time now spent on welding and machining operations. Write us today, or send a sketch of your design requirements.

PRESSED STEEL TANK COMPANY
Manufacturer of Hackney Products
1449 S. 60th St., Milwaukee 14
1122 Vanderbilt Concourse Bldg., New York 17
253 Hanna Bldg., Cleveland 15
930 W. Peachtree St., N.W., Rm. 135, Atlanta 3
208 S. LaSalle St., Room 786, Chicago 4
577 Roosevelt Bldg., Los Angeles 17

Hackney

CONTAINERS FOR GASES, LIQUIDS AND SOLIDS

USEFUL INFORMATION

(Continued)

If you write maker identify as IEN - 8595

MANAGEMENT . . Pocket instruction book for foremen sets forth their duties and responsibilities

Alsark Co.
11304-8 Idaho Ave., Hollydale, Calif.

Essentials of a foreman's job and methods of handling it are stated in concise manner by new 24-page pocket book, "The Foreman and Supervisor's Bible". List price is $1. It summarizes duties and responsibilities, laws that apply, handling grievances, human relations, leadership.

If you write maker identify as IEN - 8596

MANAGEMENT . . Facts about the "advantages" of accelerated amortization of private defense facilities

Machinery & Allied Products Institute
120 S. LaSalle St., Room 846, Chicago 3, Ill.

You will find plenty of ammunition in new 108-page book, "Amortization of Defense Facilities", to answer the charge that accelerated tax amortization is a means for industry to exploit a national emergency. The book reports a recent MAPI study on the subject, lists at $1. It reviews the record in the past two wars, describes the present law and its application, the nature of the "advantage", presents recommendations.

If you write maker identify as IEN - 8597

MANAGEMENT . . September conference on industrial engineering problems and methods

Michigan State College
Mechanical Engineering Dept., East Lansing, Mich.

Sept. 8 to 12 are the dates for the fourth annual Industrial Engineering Conference to be held at Michigan State College. It will consist of two days of general conference proceedings and three days of workshop meetings on such topics as time study, plant layout, material handling, industrial relations.

If you write maker identify as IEN - 8598

METALLURGY . . Practical textbook reviews the subject with emphasis on current practice

E. F. Houghton & Co.
301-5 W. Lehigh Ave., Philadelphia 33, Pa.

New Fifth Edition is announced for "Practical Metallurgy for Engineers", originally published in 1923. The 608-page book lists at $3.50, includes new chapters on flame and induction heating, on surface hardening methods other than carburizing, and expanded information on heat treatment of nonferrous alloys. Topics include metals and ores, fuels, refractories, mechanical treatment, heat treatment, metallography, furnaces, testing, and a set of reference data.

If you write maker identify as IEN - 8599

METAL TREATING . . Bulletin outlines service for surface hardening stainless steel, gives examples

Lindberg Steel Treating Co.
220-24 N. Laflin St., Chicago 7, Ill.

"Malcomizing" is the title of new 24-page bulletin that describes the company's service of the same name for producing a hard surface on stainless steel parts. Definition of the process, types of steels applicable, suggested prior heat treatments, corrosion resistance, heat resistance are topics.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8600

SPRAY your belts to STOP Slipping!

GRAKO Sprazon BELT DRESSING

Sprays on direct from container

New! Unique! Easy to use! Press the valve and spray your belts where slippage occurs — at the smaller pulley. Millions of tiny globules penetrate the leather fibres — make belts pliable, resilient — increase pulley grip. *Safe*: hands and arms are out of danger. *Economical*: 12 oz. container holds enough GRAKO belt dressing to dress approximately 350 sq. ft. of belting.

See your belting distributor

second century G and K GRATON & KNIGHT Estab. 1851

FREE FOLDER

GRATON & KNIGHT COMPANY • Worcester 4, Mass.
World's Largest Manufacturers of Industrial Leather Products

If you write maker identify as IEN - 8601

Man-Cooler!

Coppus Airplane Type Heat Killer

cools large areas — restores efficiency

HEAT KILLER on the job in drop forge plant.

Steel mills, drop forge plants, foundries and other plants with hot working conditions find this Coppus Heat Killer increases worker efficiency . . . at reasonable cost. *A single fan cools large areas.*

Other types also available for cooling furnaces, electrical equipment, for driving out gases, drying out products, drawing out fumes. Write now for detailed information. COPPUS ENGINEERING CORPORATION, 148 PARK AVENUE, WORCESTER 2, MASSACHUSETTS.

ANOTHER COPPUS "BLUE RIBBON" PRODUCT

If you write maker identify as IEN - 8602

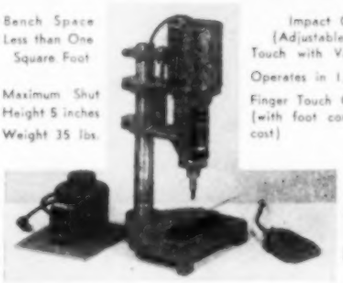
CUT PRODUCTION COSTS

MIGHTY MIDGET PUNCH PRESSES

Bench Space Less than One Square Foot

Maximum Shut Height 5 inches

Weight 35 lbs.



Impact One Ton (Adjustable to Feather Touch with Variac control)

Operates in 1/6 Second

Finger Touch Control switch (with foot control at extra cost)

BETTER FASTER CLEANER WORK

Just plug in 110 V.

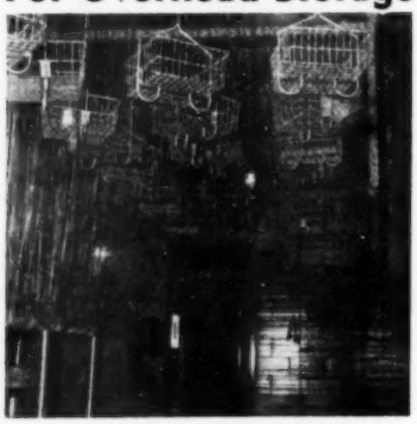
This compact little impact press can solve your production problem. Designed for cutting, crimping, riveting, marking, stamping, perforating and for subassembly work, it is the solution in many cases because of its size, low first cost and low upkeep. Investigate today!

PEACOCK METAL PRODUCTS, Inc.
754 Hyde Park Ave. Hyde Park 36, Mass.

Dealer inquiries invited. There are still a few open territories.

If you write maker identify as IEN - 8603

For Overhead Storage



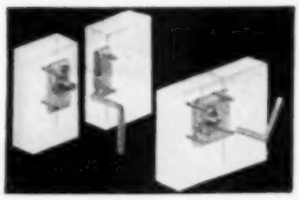
THE MOORE LOCKERBASKET

A new type basket for overhead storage of clothing and effects. The Moore Lockerbasket provides a sanitary and secure means for storage in modern changerooms. Basket slides on hanger, lowers onto garment hooks, gives slip-proof clothing suspension. Galvanized electro-welded wire. Basket 14" square, provides over 1200 cu. in. storage.

Write for Catalog and free book, "The Design and Layout of Industrial Change Rooms."

THE MOORE COMPANY • DEPARTMENT 91
1036 QUARRIER STREET • CHARLESTON, WEST VIRGINIA

If you write maker identify as IEN - 8604



Serrated, tapered cam engages lip—draws panels tightly together when turned by any hand tool.

How to fasten panels securely —and take them apart easily

Roto-Locks fasten demountable panels quickly and securely —at right angles or butt joint. Just turn the tapered cam to lock, turn again to unlock. Check these other Roto-Lock features, too:

1. Roto-Lock carries *both* heavy shear and tension loads.
2. Exerts enough pressure to form an air- and water-tight seal when gaskets are used.
3. Fastens in any mis-aligned or semi-open position.
4. Recesses *completely* into panels.
5. Has no springs or delicate mechanical parts.

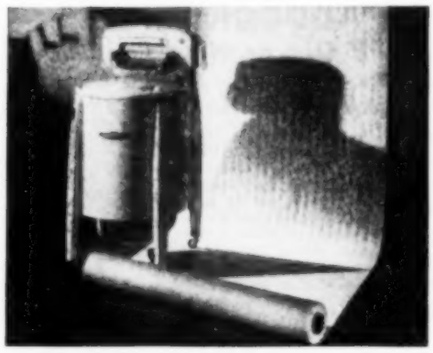
Portable shelters, air freight and cold storage shipping containers, walk-in coolers, demountable furniture and scaffolding are a few of the many products using Roto-Locks. Write today for catalog.

SIMMONS FASTENERS

SPRING-LOCK • QUICK-LOCK • ROTO-LOCK

Simmons Fastener Corp., 1758 N. Broadway, Albany, N. Y.

If you write maker identify as IEN - 8605



Custom Protection

prevents shipping damage as no other packaging method known!

How often do your products arrive at their destination scratched, cut or damaged in any way? Once a year—once a month—or oftener? If you had a single instance of damage in transit last year, it may be time to change to *custom protection* with Kimberly-Clark Interior Packaging—KIMPAK.* Companies like the Speed-Queen Corporation who revised and streamlined their packaging operations have found that nothing else protects so efficiently, so economically.

KIMPAK is soft, grit-free, easy to apply as wrapping paper. It will absorb up to 16 times its own weight in moisture within 30 seconds—protect against shock, scratching, press-marking, vibration. KIMPAK is feather-light, yet gives more protection than most materials of far greater weight and density. Many concerns have found this an important factor in reducing the size and weight of their packages, to off-set recent postal rate increases.

Regardless of the product you manufacture, KIMPAK—in its many specifications—can be "tailored" to fit your particular needs. Today—investigate *custom protection* with KIMPAK. For complete information, write to Dept. P-8, Kimberly-Clark Corp., Neenah, Wis.

KIMPAK INTERIOR PACKAGING

A Product of **Kimberly-Clark**

*T. M. REG. U. S. PAT. OFF. & FOREIGN COUNTRIES

If you write maker identify as IEN - 8607

HEAT TREATING . . Furnace assembly with conveyor hearth and quench tank

Source: IPSEN INDUSTRIES INC. 713-17 S. Main St., Rockford, Ill.

Sealed self-contained assembly

Model 500 is a new unit in the company's Series-T time controlled gas fired or electrically heated furnaces in combination with a cooling or quenching compartment. The equipment provides automatic cycling. It has a hearth measuring 30 by 48 by 20 inches. It measures about 6 by 12 ft. in width and length without the roller loading stands at the front and rear. These increase overall length to about 27 feet. Work capacity is 500 pounds per hour. Maximum operating temperature is 1,750 deg. F.

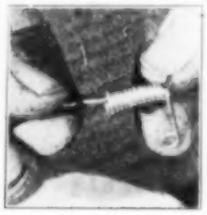
Work is loaded on a tray and is entered through the front when the operator steps upon a foot switch to open the air operated door. The tray rides the furnace hearth under a motor driven circulating fan that maintains even heat distribution. Two roller chains in the hearth lie under the tray, carry pusher fingers that bear against its front edge.

The operator closes the door and sets two timers, one for the interval in the furnace and one for a cooling or quench interval. The cycle then starts to heat the work, to open the door between the furnace and quench compartment, to operate the chains that move the work from furnace to quench elevator where it rides for air cooling or is hydraulically lowered and raised for quenching and finally to open the door at the rear for work removal. Two pilot lights signal completion of the heating and the cooling or quenching intervals.

If you write maker identify as IEN - 8608

CONNECTOR . . Tapered spring turns on to grip slipped wire ends

Source: MINNESOTA MINING & MFG. CO. 902 Fauquier St., St. Paul 6, Minn.

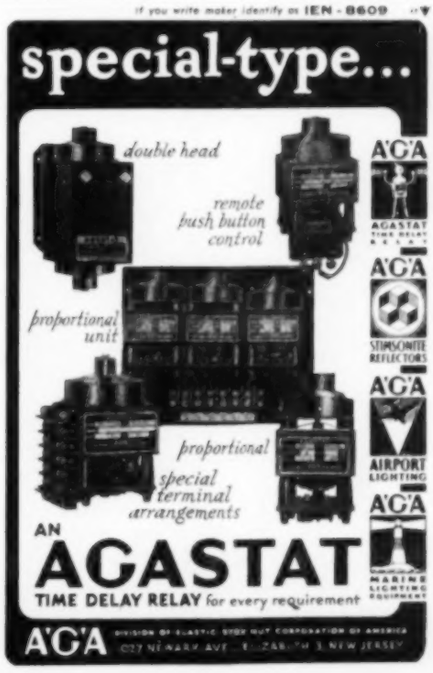


$3.15 per box

Pigtail splices can be made quickly with this new Scotchlok tapered wire spring by turning it into position on a pair or more of single or multi-strand electric wires. It will handle wires to 10 gage in a great many combinations. The tapered coil terminates in a finger at the small end to provide turning leverage. The spring action results in a tight grip that will not shake loose. After the connector has been placed it can be insulated with the company's No. 33 electric tape to produce a water and oil resistant splice. Packaging is in carton lots of 10 boxes, each containing 100 units.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

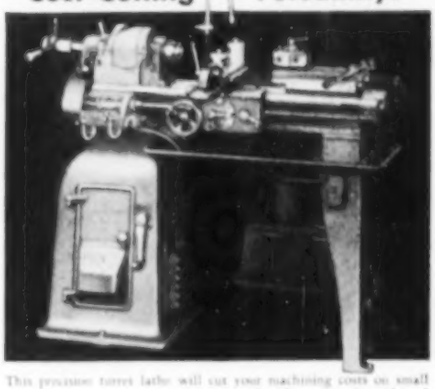
If you write maker identify as IEN - 8609



If you write maker identify as IEN - 8610

SOUTH BEND 1000 Turret Lathe

Cost-Cutting Versatility!



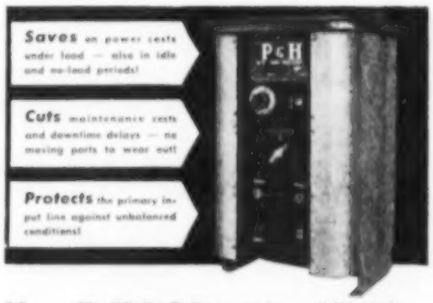
This precision turret lathe will cut your machining costs on small parts. Its accuracy, ease of operation and wide ranges of speeds and feeds insure high production and close tolerances. Practical attachments simplify tooling—and often eliminate need of special fixtures. Find out how this versatile turret lathe can improve your machining. —*Write for Catalog Now!*

SOUTH BEND LATHE

SOUTH BEND 22, INDIANA

Building Better Tools Since 1906

If you write maker identify as IEN - 8611



New P&H DC Rectifier Welder

— with Dial-lectric Control

Gives you economy, quiet operation, balanced-line loading, and instantaneous remote control.

You get low-cost DC welding current without a generator, from this new P&H DC Rectifier Welder — industrial twin to the famous P&H AC Dial-lectric Welder. Two sizes: 200 and 300 Amps at 40V.

No troublesome mechanical devices to control amperage—simply turn a single radio-type knob. This and other P&H extra-value features help you realize savings on power consumption and maintenance.

Ask your P&H representative or distributor for further information. Or write direct.

P&H WELDING DIVISION

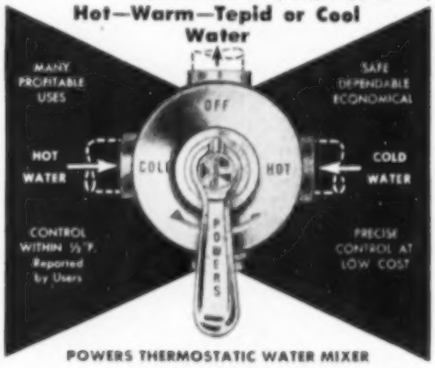
HARNISCHFEGER CORPORATION

4520 WEST NATIONAL AVENUE MILWAUKEE 46, WISCONSIN

Power Shovels • Crawler and Truck Cranes • Overhead Cranes • Hoists • Arc Welders and Electrodes • Soil Stabilizers • Diesel Engines • Pre-Fabricated Homes

24928

If you write maker identify as IEN - 8612



POWERS THERMOSTATIC WATER MIXER

Can It Solve a Problem for You?

Set a Powers Mixer for any temperature desired and forget it. Temperature remains constant regardless of fluctuations of *pressure* or *temperature* in water supply lines. Failure of cold water supply instantly shuts off delivery.

Is widely used for X-Ray and color film developing, hydrotherapeutic baths, chocolate enrobers and other processes requiring exact control. It is the safest regulator made for shower baths.

CAPACITY—10 gals. per min. at 45 psi. Dial diam. 3¼". Pipe connections ½". Temp. Ranges: 65° to 115°F.; 60° to 125°F.; 75° to 175°F. *Write for Bulletin 158-H.*

LARGER CAPACITIES up to 1000 gpm. available in other types of controls. *Write for Cat. 1035.* (8A)

THE POWERS REGULATOR COMPANY

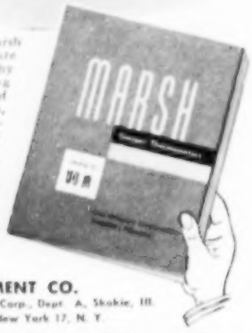
3437 OAKTON STREET, SKOKIE, ILL.

Established 1891 • Offices Over 50 Cities • See Your Phone Book

If you write maker identify as IEN-8613

the right answer

. . . to every gauge need IN THIS NEW CATALOG



The right answer—the Marsh answer — to every pressure gauge need is described by this new Marsh catalog which covers hundreds of variations of styles, types, mountings, ranges, functions. Remember that Marsh gauges, from the "Standard" series line to the heavy-duty "Master-gauge" series have proved across the years to be the most economical you can buy for a given set of conditions. Let us prove this in terms of gauges for your product.

MARSH INSTRUMENT CO.
Sales affiliate of Jas. P. Marsh Corp., Dept. A, Skokie, Ill.
Export Dept.: 155 E. 44th St., New York 17, N. Y.

If you write maker identify as IEN-8614

Keep Lubrication Fittings Clean

with S.S. WHITE ELASTOPLASTIC CAPS

Here's a tip that will help cut maintenance costs and prolong bearing life . . . use these inexpensive flexible plastic caps on your lubrication fittings. They'll keep the fittings free from the dirt and grit that's often forced into the bearings when the grease gun is applied. The caps can be slipped on and off with ease — and once on, won't shake loose. They're also unaffected by oil, grease or water.

Sizes for Hydraulic, Button Head or ⅛" Dot Type Fittings. Order a supply.

BULLETIN P-5103 has details. Ask for a copy.

THE S.S. White PLASTICS DIVISION
DENTAL MFG. CO. Dept NP 10 East 40th St. NEW YORK 16, N. Y.
WESTERN DISTRICT OFFICE: Times Building, Long Beach, California

If you write maker identify as IEN-8615

for

• TOOL CRIBS • STOCK ROOMS • MACHINE SHOPS

Saves Time hunting through stacks of packaged drills. Compartments hold a gross of small sizes — a dozen or more of the larger ones. Raised letters on easy sliding drawers . . . . hammertin gray baked enamel finish . . . 14½"x7¼"x7¼".

Write for Circular
Model No. 1: Fractional drills ⅛" to ½"
Model No. 2: Number drills 1 to 60
Model No. 3: Letter drills A to Z

HUOT MFG. CO. 565 NORTH WHEELER STREET ST. PAUL W, MINNESOTA
HUOT is pronounced "HEW OT"

USEFUL INFORMATION
(Continued)

If you write maker identify as IEN-8616

METERS . . Slide calculator and handbook to solve problems involving flow meter engineering

Foxboro Co.
42 Neponset Ave., Foxboro, Mass.

New combination offer is announced by the company for its Flow Rule and the handbook, "Principles and Practice of Flow Meter Engineering". List price together now is $27. The Flow Rule is a 12-in. slide rule for problems of line size, flow rate, orifice size. It has color-identified scales for gas, liquids and steam. The handbook, now in its Seventh Edition, is a 418-page textbook on flow measurement.

If you write maker identify as IEN-8617

PLASTICS . . Their use in printed circuits is described in bulletin with a production sequence

Formica Co.
4612-22 Spring Grove Ave., Cincinnati 32, Ohio

Metal-clad laminated-plastic sheet is described in new Bulletin 311 as to its application in making printed electric or electronic circuits. A color-coded drawing shows steps in making a circuit by the photo-etch process. Examples are shown of circuits and electronic equipment based upon them.

If you write maker identify as IEN-8618

PLATING . . Facts on vacuum metallizing presented in booklet describing scope of the process

F. J. Stokes Machine Co.
5956 Tabor Road, Philadelphia 20, Pa.

Camera lenses to costume jewelry is the range of applications described in new 16-page Catalog 725, "Vacuum Metallizing Today". The booklet describes materials employed, properties of vacuum-metallized coatings, functions of lacquer as an undercoat and top coat, steps in the process for batch and continuous work, company's equipment.

If you write maker identify as IEN-8619

PORCELAIN ENAMEL . . Suggestions on design of metal parts and on porcelain enamel as a finish

Erie Enameling Co.
1402 W. 20th St., Erie, Pa.

Industrial application of porcelain enamel as a product finish is described in new 16-page pocket bulletin, "Porcelain Enamel to Handle the Tough Jobs". It answers the question of what is porcelain enamel, tells how to use it, details its application for abrasion resistance, corrosion protection, reflectivity, high temperature and thermal shock. Drawings and instructions present tips on metals and design of metal parts.

If you write maker identify as IEN-8620

PORCELAIN ENAMEL . . For high temperature, booklet describes its performance, properties and uses

Solar Aircraft Co.
2302 Pacific Highway, San Diego 12, Calif.

"Solaramic Process" is title of new 28-page booklet and of the porcelain-enameling materials described in it. They were developed by the company particularly for high-temperature service as in jet engines. Properties are given in detail. Applications are illustrated.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-8621

WATSON-STILLMAN
HYDRAULIC POWER TOOLS FOR INDUSTRY

HYDRAULIC JACKS
These sturdy units, with either independent or integral pumps, are useful for many jobs in construction and maintenance. Capacities from 20 to 500 tons.

WIRE ROPE SHEARS
W-S wire, cable and bar shears provide years of trouble-free general service. They are light and portable for convenient on-the-job use.

PORTABLE PIPE BENDERS
Bends standard, extra heavy and double extra heavy steel pipe from ½ in. to 2 in., as well as standard weight pipe up to 3 in. dia. Also solid mild steel bars up to 1 in. dia.

HAND PUMPS
Single and double plunger types, with reservoirs of different capacities for operating small hydraulic tools, jacks and other hydraulic equipment, and for general hydrostatic testing purposes.

9-M-10

Send for your copy of Bulletin A-5 . . . It's Free.

DISTRIBUTOR PRODUCTS DIVISION
WATSON-STILLMAN
ROSELLE, NEW JERSEY

If you write maker identify as IEN-8622

LANG Tool and Die Manufacturing Company, Glendale, California, use Cerromatrix to anchor small punches in high-production lamination dies. They guarantee these dies for 2,000,000 blanks minimum.

Punches are held vertically by cap screws and mounted in Cerromatrix. Very small punches are held by circular washers outside and inside of punch, located in a ⅛" groove ground in the punch. All small punches are guided through a fixed stripper with Nitrided inserts.

At least 1/3 of the length of the punches is held in Cerromatrix. The photograph shows a die for rotor and stator blanks. It runs 135 strokes per minute. Eighty to eighty-five thousand blanks are obtained per sharpening of die. Send for literature.

CERRO de PASCO Corporation
(Formerly Cerro de Pasco Copper Corporation)
Dept. 6 • 40 Wall Street • New York 5, N. Y.

If you write maker identify as IEN-8623

MORE SPEED MORE SUPPORT

PADDOCK GUIDES

Make Old or New Band-Saws Safer — Faster — And Saves on Expensive Blade Breakage

Pictured here is **PADDOCK BALL-BEARING BAND-SAW GUIDE — MODEL 20.** Easy to install—simple to adjust! When a 36" machine is equipped with Model 20 guides, and the guides are adjusted to hold the blade at a 45° angle (see angular adjustment at right, lower picture), material 22" wide can be cut to any length.

Inter-changeable, ball bearing wheels running with blade give friction-free support. Holds blade as if in a frame. Improves old and new band-saw operation. Used in thousands of America's leading industries. Write for prices and complete information. Give size of machine and material being cut.

Write Directly to
PADDOCK TOOL CO.
Guide Makers Since 1920
1418 Walnut St. Kansas City 6, Mo.

Paddock
BALL-BEARING
BAND SAW GUIDES

If you write maker identify as IEN-8624

TOMLEE
Metal Cutting
BAND SAW

only $89.50
F.O.B. MINNEAPOLIS

NOW each bench can be equipped with a Tomlee to break your production bottleneck. It's a low cost auxiliary to your heavy duty metal cutting machine, so often kept tied up with big work. The rugged, cast iron Tomlee will cut any metal that will run through its 5¾" throat. Large work table easily tilts to 45° and is grooved to take a miter gauge for compound angle cuts. Ball bearings throughout, operates at 4 speeds. Delivered complete with simple instructions, a set of guides and a ½" blade. *Write for bulletin.*

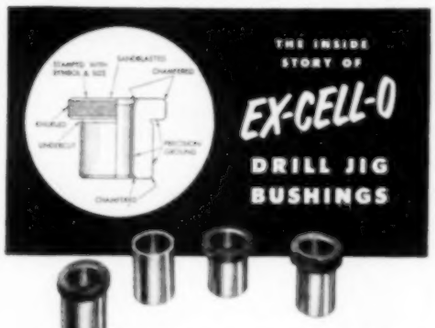
Accessories

Band Saw Stand. All-steel cabinet for mounting motor and storing accessories. 15"x23"x29¾". $37.50
No. 31500 Miter Gauge. $5.00
No. 455 Rip Fence. $5.00
½ HP Motor. 110-230 V. $43.50
ALL PRICES F.O.B. MINNEAPOLIS

TOMLEE TOOL & ENGINEERING CO.
721 Washington Ave. N., Minneapolis 1, Minn.

If you write maker identify as IEN - 8625

THE INSIDE STORY OF
EX-CELL-O
DRILL JIG BUSHINGS



Here are a few good reasons why Ex-Cell-O Drill Jig Bushings last longer and perform better:

1. Premium grade tool steel is selected for wear resistance and heat treated to 62-64 Rockwell "C".
2. Every bushing must measure up to Ex-Cell-O precision standards, as well as to A.S.A. standards.
3. High finish is ground on inside and outside diameters, and under the head for perfect bearing.

To satisfy the needs of your purchasing and engineering departments ask for an adequate supply of Ex-Cell-O Bushing Catalogs.

EX-CELL-O CORPORATION
DETROIT 32, MICHIGAN
MANUFACTURERS OF PRECISION MACHINE TOOLS • CUTTING TOOLS • RAILROAD PINS AND BUSHINGS • DRILL JIG BUSHINGS • AIRCRAFT AND MISCELLANEOUS PRODUCTION PARTS • DAIRY EQUIPMENT

51-54 XLO

If you write maker identify as IEN - 8626

IF CONVEYANCE PROBLEMS ARE NO CIRCUS TO YOU-

. . . You'll want Precision-Engineered UNIVERSAL METAL HOSE

There are many types and sizes of UMH . . . each engineered to a purpose. UMH gives you the *most efficient, air-tight, fluid-tight conveyance possible* for gases, liquids and bulk solids at elevated pressures and temperatures.

And because of *advanced engineering design*, UMH Flexible Metal Hose is tough, rugged and highly effective in resisting heat, pressure, corrosion and constant vibration.

Let us carry your load . . . tell us your troubles . . . you'll get a lot of help from our engineers, and the exact hose required from the specialized UMH Line AVAILABLE NOW.

UMH Seamless Flexible Tubing—for oil, steam, chemicals.

UMH Interlocked High-Pressure Hose—for water, hot tar, asphalt.

UMH Interlocked Exhaust and Blower Tubing—for high temp. exhausts, for lime, sand, etc.

UMH Square-Locked Low-Pressure Tubing—for spouts, dispensers, exhausts, vacuum intakes.

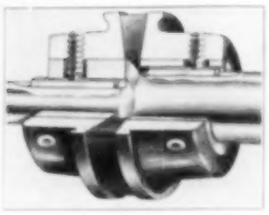
Remember . . . most UMH Metal Hose are still available. Send us your requirements and ask for Catalog U-101, for your handy reference file.

UNIVERSAL METAL HOSE CO.
2131 S. Kedzie Avenue • Chicago 23, Illinois

If you write maker identify as IEN - 8628

DRIVE . . Flexible coupling takes bushings for given shaft sizes

Source: MAUREY MFG. CO.
2909-19 S. Wabash Ave., Chicago 16, Ill.



Interchangeable bushings

Rubber is bonded between the tapered flange faces of the identical cast iron hubs in this new coupling. The hubs are bored out the same size and bushings are employed to adapt the bore to various sizes of shaft. At present the coupling is made with 1 11/16-in. bore and is known as Type FXB75. Larger and smaller sizes are scheduled for production later. The bushings are secured in the hubs by set screws. They can be equipped with keyways and keys as shown.

If you write maker identify as IEN - 8629

CONDUCTOR . . Teflon insulated wire, chemically inert, non-flammable

Source: TENSOLITE INSULATED WIRE CO.
199 Main St., Tarrytown, N. Y.

$12.50 for 100 feet

The company announces production of a new miniature wire trade named Tensolon. The wires employ the patented Tensulation process in which Teflon tape is wrapped and fused in place. The process eliminates the possibility of pin holes or other irregularities in the insulation. Temperatures to 250 deg. C. have no deteriorating effect. Five sizes from AWG 30 to AWG 22 are available in 100-ft. rolls. Stranding is 6 by 38 to 27 by 36. Insulation thickness ranges from 0.007 to 0.013 in. in the sizes available.

If you write maker identify as IEN - 8630

HANDLING . . Paper pallet, expendable, reinforced construction

Source: FIBER-WELD CORP.
149-53 E. Venango St., Philadelphia 40, Pa.

Need not be saved

Kraft paper is employed to face both sides of honeycomb material in the construction of this new pallet. The legs, nine per pallet, are made of the same material. They measure 8 by 8 in. and provide crushing strength of 60 lb. per square inch. Designs include single faced, single faced with reinforcements on the bottom, and double faced. Sizes are subject to specification. A 48 by 48-in. single faced unit weighs about 8½ pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 8631

MELRATH GASKETS

DRUM PLUG GASKETS

Made from any desired material or combination of materials. Resilient — tightened with little torque — remain tight under all temperature changes. For gasoline, kerosene, benzol, alcohol, fuel oil, lubricating oil, paraffine, paint, lacquer, dye, chemicals, etc.

There's a Melrath Gasket for Every Purpose!

MELRATH SUPPLY & GASKET CO., INC.
3501 MEMPHIS ST., PHILADELPHIA 34, PA.

If you write maker identify as IEN - 8632

SPEED UP/ with HANSEN

—the TACKER it Pays to Use!

SAVES TIME! Wherever tacking and fastening are done — in assembly, production, shipping — Hansen speeds up operations, cuts costs and saves time. Balanced design—unique Take-up Jaw—for easier operation—quicker service.

STEPS! Hansen is self-contained, loaded, ready for instant, continual use. Holds scores of staples. Reloads quickly. Easily portable. Take it to the job! Hansen Vest-Kit saves back-tracking for refills.

MATERIALS! Accurate, precision driving—staples placed and driven exactly where you want them—no marring of surface — no wastage.

36 DIFFERENT MODELS
50 STAPLE SIZES

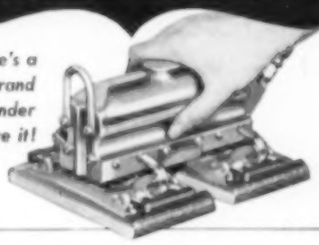
REQUEST BOOKLET

A.L.HANSEN MFG.CO.
5051 RAVENSWOOD AVE. CHICAGO 40 ILLINOIS

If you write maker identify as IEN - 8633

Whatever your sanding problem...in wood, metal, plastic

...there's a Sundstrand Air Sander to solve it!



SUNDSTRAND SANDERS WITH STRAIGHT-LINE ACTION ARE WIDELY USED FOR:

- Wood finishing . . . building materials, furniture, cabinets, wood parts, etc.
- Plant production and maintenance work.
- Finishing metal parts.
- Plastic and glass finishing.
- Truck, car and machinery refinishing.
- Cleaning purposes . . . vats, bins, and other containers.

SUNDSTRAND

SUNDSTRAND AIR SANDERS
SUNDSTRAND MACHINE TOOL CO.
PNEUMATIC DIVISION, ROCKFORD, ILLINOIS

If you write maker identify as IEN - 8634

JOHNSON wide-rehandling clamshell

EASY-CLOSING
big-diameter sheaves, with sealed-in needle bearings, reduce friction losses, deliver full power to cutting lips. Light weight, sturdy bucket assures big payload performance in loose materials.

ALL-WELDED
smooth, fast cleaning. Hard manganese cutting edge welded to lips toughens with use. 16 Wide Rehandling sizes: ½ - ⅔ - ¾ - 1 - 1¼ - 1½ - 1¾ - 2 - 2½ and 3 cu. yds.

Other Johnson types: General-Purpose and Heavy-Duty Digging.

MAIL TODAY

to: C. S. JOHNSON Co. CHAMPAIGN, ILLINOIS (Koehring Subsidiary)
Send complete facts on ____-cu. yd. Wide-Rehandling Clamshell Bucket
NAME ____
COMPANY ____
STREET ____
CITY, STATE ____

If you write maker identify as IEN - 8635

MACHINE DESIGNERS!

GET THE FULL STORY ON HANNIFIN'S

NEW Pilot-Master Air Control Valves!

HERE'S WHY MAINTENANCE MEN PREFER THEM . . .

FEWER VALVES TO STOCK
Use same valve 2-way or 3-way, normally open or normally closed.

FEWER PARTS TO STOCK
Unique cartridge construction makes "insides" easily replaceable.

INDUSTRIAL SOLENOIDS
Long-lasting, easy to change coils to any standard voltage.

All Sizes From ¼" to 1¼" I.P.S.
Pressures From 15 to 150 P.S.I.
Write for Bulletin 231 and get the complete story!

HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Ill.

If you write maker identify as IEN - 8636

built for years of dependable service

Abart SPEED REDUCERS

Year after year, Abart Speed Reducers continue to give dependable and power-conserving service, even under the most trying conditions. Designed and built for endurance and operating economy, they have established fine performance records on thousands of applications. From a wide choice of 75 different models and types, you'll find an Abart suited to your needs. Units available in spur, worm and combinations, including gear motors. Single- and double-reduction models are rated from 1/50 to 168 h.p., with ratios up to 10,000 to 1.

Send now for handy, pocket-sized catalog. You'll find just the unit you are looking for, together with complete technical data on all types of Abart Speed Reducers.

Abart GEAR & MACHINE CO.

4823 WEST 16th STREET • CHICAGO 50, ILLINOIS

Mfrs. of Gears, Speed Reducers and Gearmotors

If you write maker identify as IEN - 8637

Continental CHASER AND CUT-OFF WHEEL GRINDER

Keeps tools sharp

One machine does both—it sharpens pipe thread chasers at one end—and pipe and tube cut-off wheels at the other end. Keeps your tools ready for instant use—always sharp. *Also, Manufacturers of Cut-off Machines and Wheels.*

Request Circular, Today.

Continental MACHINE CO.

SINCE 1919

1953 N. MAUD AVE. • CHICAGO 14, ILL.

USEFUL INFORMATION

(Continued)

If you write maker identify as IEN - 8638

PRESSES . . Booklet traces growth of company from original cider press to 18,000-ton giants

Hydraulic Press Mfg. Co.
751 Marion Road, Mount Gilead, Ohio

25th Anniversary booklet carries the title, "It Started with an Apple", describing the origin of the company in the determination of its founder, A. Q. Tucker, to make a hydraulic press for cider. The 32-page booklet shows early equipment models, traces the company's growth, shows its present line of hydraulic presses for metal working, plastic molding, die casting, together with hydraulic components such as pumps, motors, valves, cylinders.

If you write maker identify as IEN - 8639

STAPLING . . Machine operation and use in box closing are shown by new sound motion picture

International Staple & Machine Co.
803 E. Herrin St., Herrin, Ill.

"Package for Profit" titles new sound film on the company's retractable-anvil stapling machine. It shows how the machine operates, how it is employed to close cartons and boxes from the outside after they are filled, how manufacturers are using it in a number of applications. Running time is 11 minutes.

If you write maker identify as IEN - 8640

STEEL . . How it is made told by pictures and non-technical text in new booklet

American Iron & Steel Institute
350 Fifth Ave., New York 1, N. Y.

"Picture Story of Steel", new 60-page booklet, describes steel production starting with raw materials, how iron is made, manufacture of steel, steel ingots, finished steel products, testing, uses of steel, facts about the industry.

If you write maker identify as IEN - 8641

TECHNICAL WRITING . . Book covers topics from formal technical reports to visual presentations

Henry Holt & Co.
381-85 Madison Ave., New York 17, N. Y.

"Technical Reporting" titles new 300-page instruction book written by Joseph N. Ulman, Jr. of MIT. List price is $4.75. The book starts with a description of important fundamental principles, outlines a general procedure to follow, then makes specific suggestions on informal and formal reports, laboratory reports, technical papers, oral reports. It covers style, grammar and punctuation.

If you write maker identify as IEN - 8642

WELDING . . Instruction book on methods of salvaging tools and dies by welding

Eutectic Welding Alloys Corp.
40-42 172nd St., Dept. P, Flushing 58, N. Y.

How to salvage tools and dies is the subject of new 64-page Manual 4. It starts with a description of the problems involved in welding tool steels, reviews methods of welding, presents a number of specific procedures for tools and dies of various kinds, includes a tempering chart and data on the company's electrodes.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8643

MOBILIFT

L&R Matic DRIVE

FORK LIFT TRUCKS

• STAND-UP AND SIT-DOWN MODELS
• GAS OPERATED—NO GEARS TO SHIFT
• A SIZE TO FIT YOUR NEEDS

2,000, 2,500, 3,000, 3,500 lb. capacity Stand-Up Models
2,000, 3,000 capacity Sit-Down Models
63", 72", 83" Masts
Special Masts to your order.

Write for complete specifications or contact your nearest Branch Office.

MOBILIFT L&R Matic DRIVE

MOBILIFT CORPORATION

833 S. E Main St., Portland 14, Oregon

2317 W. 18th, CHICAGO • 790 Patterson Ave., E. RUTHERFORD, N. J.
2724 Taylor St., DALLAS • 113 Spring St. N. W., ATLANTA
2730 San Pablo Ave., BERKELEY

If you write maker identify as IEN - 8644

High Speed Stud Driving

• A FAST OPERATION TIMED IN SECONDS!

This tool is used by a majority of plants where stud driving is done on a high production basis. Can be operated at any speed which is safe for driving the stud. (It is not necessary to stop rotation at any time.)

• AUTOMATIC TAKE-UP FOR WEAR ON JAWS
• REVERSING POSITION OF CLUTCH GIVES DOUBLE WEAR AT HALF COST
• AFFORDS ACCURATE PROJECTION HEIGHTS
• USE WITH ANY AIR OR ELECTRIC DRILL OR DRILL PRESS

Write for Free Literature, TODAY!

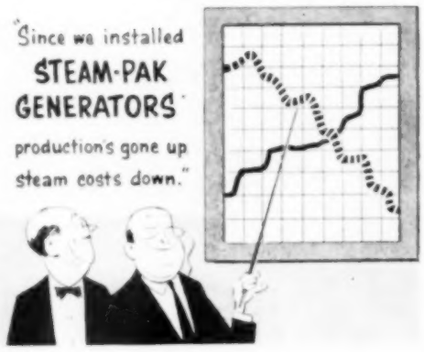
TITAN TOOL CO.

Production Tools

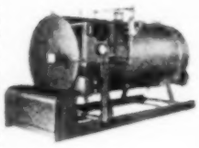
52 Main St., FAIRVIEW (Erie County), PA.

If you write maker identify as IEN - 8645

"Since we installed STEAM-PAK GENERATORS production's gone up steam costs down."



"Steam-Pak's file of installations shows case after case of unbelievable cost savings. These modern automatic power plants high or low pressure are ideal for plant expansion where more steam is required because they can be installed where you need the steam without expensive stack or boiler room construction. Money savers on replacement jobs too!



FREE! 14-page Steam-in-a-package booklet gives specifications, operating data, applications, etc. Get your copy of 201-J today.

YORK-SHIPLEY, INC., YORK 13, PA.

If you write maker identify as IEN - 8646

USE A CYLINDER SAVE A MAN!

WHEREVER YOU HAVE TO...

PUSH or PULL
LIFT or LOWER
PRESS or SQUEEZE
TILT or TURN
OPEN or CLOSE

Leeden cylinders used for air, oil, water, gas or steam operation with medium, heavy or super-duty models, provide a large number of variations and adaptations to meet your specific power or motion requirements. They are available in many diameters and stroke lengths with suitable head and rod attachments to provide almost any desired mounting.

Standard Ledeen cylinders and mountings from distributors stocks in major cities. Special cylinders if required. All J.I.C.

WRITE FOR BULLETIN 500

Ledeen Mfg. Co.
1602 San Pedro
Los Angeles 15, Calif.

VALVES • CYLINDERS
AIR-HYDRAULIC
PUMPS & BOOSTERS
VALVE ACTUATORS
AIR HOISTS

If you write maker identify as IEN - 8647

NOW! SKYLIGHT WITH RESOLITE

TRANSLUCENT STRUCTURAL PANELS

RESOLITE makes large skylight and wallight areas economical for corrugated industrial buildings because no extra framing is required either for support or weatherproofing — it nests with any standard corrugated sheet. RESOLITE permits substantial savings in plant lighting by its efficient diffusion of daylight through the building interior. Structurally rugged, chemically immune to weather extremes and most industrial fumes, RESOLITE gives long life without protective treatment. RESOLITE is molded in six colors to all standard sheet sizes and corrugations. Made of polyester resins reinforced with Fiberglas mat, the material is shatter-proof and can be worked with ordinary tools. **Excellent for Interior Partitioning** in office or home, for shower and toilet stalls, and decorative architectural uses.

Write for free literature

RESOLITE CORPORATION
ZELIENOPLE, PA.

If you write maker identify as IEN - 8648

Atomizes Oil Into Mist!
Circulates It Through
Tubing To Bearings!

ALEMITE OIL-MIST

EXTENDS BEARING LIFE!
STOPS OIL DRIPPAGE!
ENDS PRODUCT SPOILAGE!

What it is: Alemite Oil-Mist is a fully automatic system using air-borne oil for machinery lubrication. It is an amazingly simple lubricator which applies a constant uniform oil film to groups of bearings designed for either oil or grease lubrication.

A unique lubrication system. Oil-Mist operates on compressed air—without any moving parts. A basic system consists of (a) Lubricator, (b) Solenoid Control, (c) Water Separator, and bearing fittings and tubing.

How it works: The Oil-Mist Lubricator atomizes oil into microscopic particles which are carried in the air stream and distributed through tubing to bearings.

Here Oil-Mist is applied to 8 bearing points on a 45-ton press. The entire press is lubricated perfectly with an oil consumption of only three-quarters of an ounce per 8-hour day.

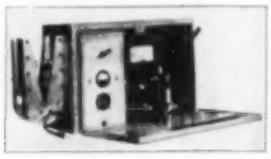
Get the facts NOW!

Just out! This new catalogue brings you the complete story on Oil-Mist. Specifications, models, typical applications, actual case histories. Get yours now. Write Alemite Division of Stewart Warner, Dept. K-82, 1850 Diversey Parkway, Chicago 14, Illinois
*Name on request

If you write maker identify as IEN - 8650

TESTING . . Surface resistance meter checks resistance welding performance

Source: WELTRONIC CO.
19456 W. 8-Mile Road, Detroit 19, Mich.



Particularly for aluminum

Surface resistance following a cleaning operation on two metal sheets or sample pieces can be measured directly when they are placed between two self-contained electrodes on this new instrument. Direct readings are provided in a range to 100 microns. Resistance between 100 and 1,000 microns can be read indirectly. The instrument is equipped with a hydraulic pressure device and a pressure gage, 3-in. standard copper electrodes, a vacuum tube dc. millivoltmeter, a resistance indicator adjuster and a dc. power supply with a suitable voltmeter and indicator bulb.

Assembly is in a housing measuring 20 by 10 by 13 inches. Measurements are made as an indication of the effectiveness of a cleaning process prior to resistance welding.

If you write maker identify as IEN - 8651

HEAT TREATING . . Hardening service for stainless steel cutting tools

Source: C. U. SCOTT & SON
1508-12 First Ave., Rock Island, Ill.

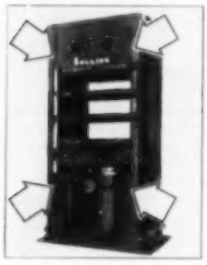
Diameters to 8 inches

The company announces extension of its hardening process, previously described IEN-3197-47, so it now is being applied on milling cutters and reamers made of 18-8 stainless steel. The work is sent to the company to be processed, completely finished to size and with the cutting edges ground. No change occurs due to the processing either physically or chemically except for the added hardness.

If you write maker identify as IEN - 8652

PLASTIC MOLDING . . Hydraulic press takes load on side frame shoulders

Source: STEWART BOLLING & CO.
3188-92 E. 65th St., Cleveland 27, Ohio



Steel plates employed as the side members in this new unit in the company's line of hydraulic presses are machined to present shoulders to take the load on the top and bottom heads. Bolts anchor the heads in place to provide a solid rigid assembly. The new unit mounts 48 by 48 in. platens and a 36 in. upward acting ram. It rates 1,000 ton. It is available with 18, 24 or 30 in. stroke. Additional platens are available to specification.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8653

MILL IT *faster..* SAVE LABOR!

Kent-Owens advanced features mean *speed, accuracy* and *dependability*... in tool room or production milling. Rugged . . . simple in design and operation. Saves labor . . . reduces costs! Write for bulletins on wide range of hydraulic and hand-operated machines. Kent-Owens Machine Co., Toledo, Ohio.

No. 2-20 Milling Machine
Table, 42" x 12"
Table travel, 20"

KENT-OWENS
Milling Machines

If you write maker identify as IEN - 8654

FOR YOUR TOUGHEST JOBS

NEW OTC

30 TON POWER-TWIN *Hydraulic Puller*
BIG BROTHER TO THE FAMOUS 17½ TON POWER-TWIN

FAMOUS CENTER HOLE
Lets Power-Twins do jobs thought impossible . . . unlimited adjustment . . . eliminates torque, friction . . . versatile interchange of parts.

Dynamite . . . the tough 30 ton OTC Power-Twin Hydraulic Puller . . . saves hours and dollars on every overhaul *job*. Light . . . compact . . . safe remote control. Gives 30 tons of power with only 100 pounds of pump pressure. Complete Hydraulic Puller sets for both 30 ton and 17½ ton Power-Twin.

WORKS WONDERS

Power-Twin pulls or installs bearings, gears, pinions, shafts, studs, wheels, pulleys . . . also performs as a heavy jack, straightener or compressor.

See your jobber for complete information or write us.

OWATONNA TOOL COMPANY
371 CEDAR STREET • OWATONNA, MINNESOTA

If you write maker identify as IEN - 8655

MILLIONS OF GALLONS OF LIQUIDS ARE ACCURATELY MEASURED EACH YEAR BY THESE . . .

. . . BOWSER XACTO METERS

Wherever precision measurement is essential to assure constant uniformity of product—control costs, or simplify handling of liquids—there you will usually find Xacto meters on the job.

Right now—in many plants of all types—Bowser Xactos are efficiently handling 662 different liquids.

It will pay you to consult with your nearby Bowser representative.

BOWSER, INC.
1328 Creighton Ave., Fort Wayne 2, Ind.

BOWSER
Regional Offices • Atlanta • Chicago
Cleveland • Dallas • Kansas City • New York
San Francisco • Washington, D. C. • Hamilton, Ontario

If you write maker identify as IEN - 8656

KOHLER PRECISION CONTROLS
Aircraft-Industrial-Automotive

Kohler Co. is a leading supplier of precision controls to manufacturers of jet engines, military, commercial and private aircraft, agricultural and industrial test equipment, Diesel engines, automobiles, trucks, and tractors.

Our engineers develop, for volume production, valves, fittings and kindred equipment to specification. Write for catalog.

Kohler Co., Kohler, Wisconsin. Established 1873

KOHLER OF KOHLER
PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS
AIR-COOLED ENGINES • PRECISION CONTROLS

If you write maker identify as IEN - 8657

LANCO INDUSTRIAL TRAILERS

The Lanco 895 Industrial Trailer illustrated combines rugged construction with modern design and quality materials. Highly maneuverable, it has improved casters permitting high speed operation. An economical, efficient unit with a low original cost. Lanco standard or custom built trailers will give you efficient service — write today for details on units to meet your requirements.

LANSING CO. LANCO MATERIAL HANDLING EQUIPMENT — LANSING, MICHIGAN

If you write maker identify as IEN - 8658

WILL YOUR PLANT STAND A WHITE GLOVE INSPECTION ?

Model 218

This idea may sound far fetched — but it's straight facts that the clean plant, shop or office will have the best chance of landing defense orders.

Doyle Vac-Its are vital to your defense programs. Write Doyle today. No obligation.

Doyle VACUUM CLEANER CO.

2235 Stevens St., S. W. Grand Rapids 7, Mich.

If you write maker identify as IEN - 8659

FREE

IF YOU PRODUCE PARTS THAT REQUIRE FINISHING OF ANY KIND

This amazing 22-page booklet is *guaranteed* to open your eyes! Gives latest, up-to-the-minute facts — figures — photos on advanced barrel finishing. Shows how single unit installation replaces from 2 to 12 men—saving up to 95% on almost all types of parts from large castings to small intricate parts.

Investigate today! Send for your FREE copy of Booklet No. G-8 today.

ALMCO Supersheen

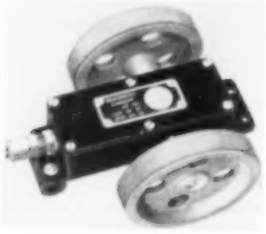
AMERICA'S LARGEST MANUFACTURER OF ADVANCED BARREL FINISHING EQUIPMENT — MATERIALS AND COMPOUNDS

ALBERT LEA, MINNESOTA

If you write maker identify as IEN - 8660

COUNTING . . Electric actuator rides moving material to count feet

Source: PRODUCTION INSTRUMENT CO. 700-10 W. Jackson Blvd., Chicago 6, Ill.



Counter not shown

Two wheels 12 in. in circumference are mounted on the two sides of a switch housing in this new electric counter actuator. They ride on moving material on which length is to be measured or counted. Each rotation actuates the switch in the housing to momentarily close the electric circuit leading to one of the company's standard solenoid operated counters. The switch rates 10 amp. on 115 volt ac. Housing dimensions without the wheels are about 6 by 2 by 1½ inches. Wheel sizes other than 12 in. can be specified to meet requirements.

If you write maker identify as IEN - 8661

HEATING . . Oil fired unit heats and circulates processing oil

Source: CLEAVER-BROOKS CO. 324-28 E. Keefe Ave., Milwaukee 12, Wis.

Sizes to specification

Oil Booster is a new assembly of oil fired heating unit and a motor driven pump by which processing oil is brought up to a high temperature and then pumped through heat transfer coils located in processing tanks and vessels. The oil takes the place of hot water or steam as the heating medium. It flows in a closed circuit from the heater, through the coil and back to the heater.

The oil burner is controlled automatically to fire into a combustion space. Products of combustion return through flues to a stack connection at the front. Assembly is on skids ready for installation and service line hookups.

If you write maker identify as IEN - 8662

FASTENINGS . . Reference book of standards presents up-to-date information on bolts, nuts and rivets

Industrial Fasteners Institute
3646-50 Euclid Ave., Cleveland 15, Ohio

Revision is announced for the book, "Bolt, Nut and Rivet Standards," originally published in 1941. The new 256-page book, list price $3, contains current standards for commercial fastenings. It includes a number of new standards such as those for square and hexagon bolts and nuts unified dimensionally with Canada and Britain. Special sections cover weights, stock production sizes, terminology.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8663

Simplify Die Design . . . Specify

DANLY®

DIE SPRINGS

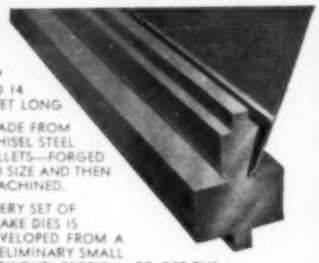
Two complete size ranges . . designed for medium pressure —high deflection or high pressure—medium deflection . . . meet specific die making needs more exactly! Write today for complete information. Ask for the Danly Die Spring Folder.

SEND FOR YOUR COPY TODAY

DANLY MACHINE SPECIALTIES, INC.
2100 South Laramie Avenue, Chicago 50, Illinois
PRECISION DIE SETS . . TOOL, DIE AND GAGE MAKERS SUPPLIES

If you write maker identify as IEN - 8664

BRAKE DIES



- UP TO 14 FEET LONG
- MADE FROM CHISEL STEEL BILLETS—FORGED TO SIZE AND THEN MACHINED.
- EVERY SET OF BRAKE DIES IS DEVELOPED FROM A PRELIMINARY SMALL "TRY-OUT" SECTION—TO GET THE RIGHT SHAPE ON YOUR MATERIAL. THEN
- WE MAKE YOUR SET OF PERFECT BENDING DIES.
- BY THE MAKERS OF THE FAMOUS SEMCO NIBBLER PRESS.

Write for Latest Literature, Ask for Estimates.

SEMCO SERVICE MACHINE COMPANY INCORPORATED

200 MILLER STREET ELIZABETH, N. J.

If you write maker identify as IEN - 8665

For Lubricating Devices Call On GITS First!

GITS Bros. covers the *entire range* of lubricating devices: Oil Hole Covers, Oil Cups, Grease Cups, Bottle Oilers, Gauges. Gravity-Feed, Wick-Feed, Constant Level, Vibrating Rod styles. Threaded or Drive-type. Elbow or Straight.

GITS Bros. offers the most complete selection of standard styles.

GITS consistent quality in design, materials and machining has made Gits Lubricating Devices the standard for industry for more than 40 years.

GITS Lubricating Devices are far-famed for solving tough oiling problems at low cost.

GITS Bros. Engineering Staff—true specialists in lubrication engineering—is at your disposal.

Write today for free illustrated Price Guide Catalog. Use it as your handy reference for lubricating devices.

GITS BROS. MFG. CO.

1854 S. Kilbourn Ave., Chicago 23, Ill.

If you write maker identify as IEN - 8667

If you're looking for an easier, faster, *cheaper* way to move bags, bales, boxes, cartons and bundles up to 75 pounds, get this Farquhar Model 436 Package Conveyor on the job and watch your handling costs hit rock bottom!

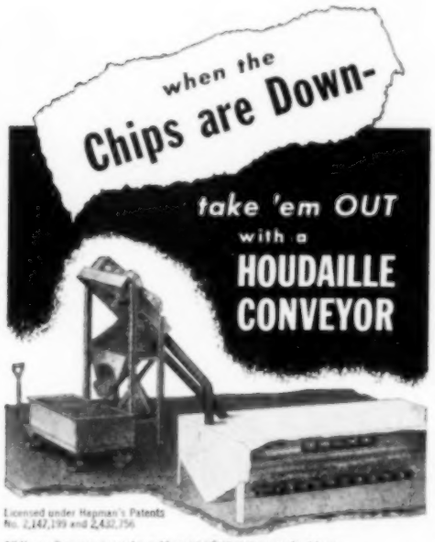
The Farquhar Model 436 is especially designed for all types of portable or semi-permanent materials handling installations. Heavy, two-ply rubber covered belt is 12" wide, carries units up to 75 pounds at standard speed of 78 feet per minute. Belt is supplied with or without cleats. Standard center support provides great stability, may be attached to floor or hung from ceiling. Minimum length 14 ft., maximum 32 ft.

For more information and for your FREE copy of "OWNERS REPORT"—a booklet containing case histories of money-saving Farquhar Conveyor installations—write: A. B. FARQUHAR CO., Conveyor Dept. G-32, 142 N. Duke St., York, Pa., or 618 W. Elm St., Chicago 10, Ill.

Farquhar CONVEYORS SAVE YOU MONEY

A. B. FARQUHAR COMPANY • *DIVISION OF* THE OLIVER CORPORATION

If you write maker identify as IEN - 8668



Licensed under Hapman's Patents No. 2,147,199 and 2,432,756

All Honan-Crane equipment is sold on a performance guaranteed basis.

In this large motor car plant, Houdaille Enclosed-Flight Conveyor continuously removes chips from pit beneath twin banks of Bausch 12-Station Transfer Drilling Machine. Chips are deposited into portable hopper for disposal. Houdaille Conveyor is ideal for removing small material from confined area. This installation paid for itself out of savings in one year.

Automatic System Solves Difficult Chip and Sludge Removal Problems . . . Cuts Costs, Speeds Production

Houdaille Conveyor's automatic loading and continuous materials transport handles any solid or fibrous waste (chips, abrasive sludge, scale, etc.) which settles to the bottom of a tank or hopper. Many plants of all sizes, in many types of operation, have saved substantially on labor, maintenance, down-time and other production costs by installing one or more Houdaille Conveyor systems.

Check these important Houdaille advantages:

- Eliminates costly manual cleaning and handling methods
- Operates continuously or intermittently as needed without shutting down productive machinery
- Readily adaptable to almost any need, any space or traverse requirement . . . ideal for restricted areas
- Dependable, trouble-free automatic operation; requires little or no maintenance attention; quickly pays for itself out of savings.

Write for complete information and case histories. Honan-Crane Engineering Service is available.

WORLD LEADING OIL FILTER MANUFACTURER

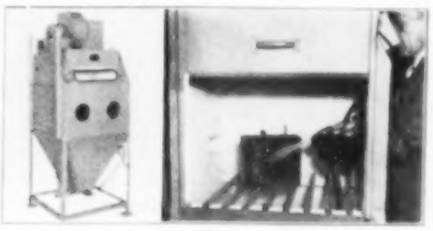
HONAN-CRANE CORPORATION
802 Wabash Avenue, Lebanon, Indiana
subsidiary of **HOUDAILLE-HERSHEY CORP.**

IN CANADA:
E. W. Playford Ltd., Montreal 28
W. E. Micklethwaite, Toronto 16
Cummins Galbraith, Ltd., Edmonton, Alta.

If you write maker identify as IEN - 8670

CLEANING . . Wet abrasive machine for use on dies, moulds, small parts

Source: ABRASIVE WET-BLAST INC. 1305 N. Main St., Niles, Ohio



Particularly for use in tool rooms

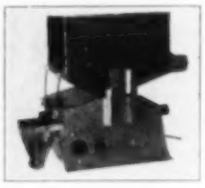
Granular abrasive suspended in water is applied by air pressure through an operator held nozzle in this new cleaning machine. Heat-treating scale can be removed from tools and an excellent finish imparted to the tool surfaces. Work pieces can be prepared for bonding, painting and plating in place of buffing or polishing. Undesirable surface accumulations can be removed rapidly to leave a surface particularly good to hold lubricants and, as in the case of cutting tools, to prevent chip welding.

Work is introduced through a slide door at the side of the housing to ride on a tubular rack in the cleaning chamber. Hose lines connecting to the gun carry compressed air and water suspended abrasive for operation in a closed circuit in which the abrasive is returned for use over again. The operator molds the nozzle by reaching into two glove equipped openings. He observes progress of the work in the illuminated interior of the machine by looking through a window.

If you write maker identify as IEN - 8671

FEEDING . . Scale type unit weighs material to molding machine

Source: GLENGARRY PROCESSES INC. 68-72 Shore Lane, Bay Shore, N. Y.



For precision molding

A supply hopper, an electric vibrating feeder, a beam mounted weigh bucket and a solenoid operated gate make up this new Precision Charging Unit. It feeds predetermined amounts of material to a plastic molding machine. Amount can be adjusted between 0.5 and 80 oz. in the standard assembly.

The feeder conveys the material from the supply hopper to the weigh bucket until it has received a predetermined weight. Then a slight movement of the beam opens the circuit to the feeder and stops material flow. At this point the gate of the weigh bucket is opened by a solenoid and the material drops into the machine's charging chamber.

The cycle is synchronized with the machine so it operates without need for attention after the amount has been set and as long as a material supply remains in the hopper. The equipment is available in several types to mount on any standard molding machine. Contact parts are made of stainless steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8672

Standard Models with Temperature Ranges to 1000° F Available. Prompt Quotations on Ovens Built to Your Specifications. Write for literature.

GRIEVE-HENDRY CO., INC.
1654 W. MADDON ST. • CHICAGO 22, ILL.

If you write maker identify as IEN - 8673

Offset Printing Eliminator Manufacturer Specifies CASH-ACME

The wet spray or dry powder method which fixes "just-off-the-press", wet printed matter, and prevents smear in offset printing, is controlled by a series of CASH-ACME Valves. Without the consistent, unfailing operation of these two CASH-ACME pressure reducing and regulating valves, resulting smudge of printing would cause thousands of dollars loss. More and more industries specify CASH-ACME because they recognize the value and savings of dependable valves. Write for information describing the part CASH-ACME Automatic Valves can play in the successful operation of your product.

CASH ACME SILENT SENTINEL Automatic Valves

A. W. CASH VALVE MANUFACTURING CORP.
6612 E. Wabash Ave.
Decatur, Illinois

If you write maker identify as IEN - 8674

LONG LASTING...

KESTER FLUX-CORE SOLDER

Long lasting soldered assemblies are assured with Kester, as demanded by your Quality Control and so necessary today on all Government Contracts.

Kester Solder meets applicable Government or Federal specifications.

Free Technical Manual. Send for your copy of "SOLDER and Soldering Technique" today.

KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, N. J. • Brantford, Canada

KESTER SOLDER

If you write maker identify as IEN - 8675

Another **FIRST by ARO**

A REVOLUTIONARY SCREW DRIVER AND NUT SETTER

ARO's new push-button valve means *instant reverse action* . . . no need to remove from work . . . no stopping to turn levers . . . no wasted time.

Adjustable clutch (available with positive clutch) Length 7-11/16" . . . outside diameter 1-5/16" . . . weight 1.4 lb.

This outstanding tool must be seen in action to appreciate its amazing action. Write for literature.

The Aro Equipment Corporation, Bryan, Ohio.
Aro Equipment of Canada, Ltd., Toronto

ARO AIR TOOLS Also . . . LUBRICATING EQUIPMENT . . . HYDRAULIC EQUIPMENT . . . AIRCRAFT PRODUCTS . . . GREASE FITTINGS

If you write maker identify as IEN - 8676

Sturdily Built for RUGGED USE

MODEL "H" STROKE COUNTER in attractive new finish — Seal Brown and Alaska Gray

This Productimeter Heavy Duty line is designed for hard usage and long service. Especially adaptable to production machines such as punch and drill presses, screw machines, turret lathes, etc.

There is a Productimeter for every counting job . . . always accurate . . . always dependable. They eliminate all "guess-work" . . . insure profitable operations and more efficient use of man-hours in your plant.

Send for Catalog No. 151

DURANT MANUFACTURING COMPANY
1930 N. Buffum Street, Milwaukee 1, Wisconsin — 130 Orange Street, Providence 3, R. I.
Representatives in Principal Cities

PRODUCTIMETERS SINCE 1879 *Count Everything*

If you write maker identify as IEN - 8677

Take surface temperatures quickly, accurately . . . with the

The handy Alnor Pyrocon is unequaled for quick, accurate reading of all surface temperatures . . . whether surfaces are metallic or non-metallic, flat or curved. Accurate temperatures are easily understood on the Pyrocon's direct reading scale fate . . . without interpolation or need of conversion tables. A wide selection of thermocouples and extension arms permits adaptation to many types of service. For complete details and prices, send for Bulletin No. 4257, Illinois Testing Laboratories Inc., Room 511, 420 N. LaSalle Street, Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN - 8678

THE HP-600 ARBOR PRESS

For EFFICIENCY and ECONOMY

For light high-speed production and assembly presswork. Provides 800 lbs. of sensitive pressure and sensitive control. Frame, table and table standard are close grained iron castings, well braced and accurately machined. Ram and pinion are special steel. Three slots for arbor work—¼", ½" and ¾" wide. The ideal "Pressure Tool" for model makers, jewelers, instrument makers, radio men, research laboratories, schools, light production work, etc.

Straightening attachment available at $4.95.

$14.80 POSTPAID U.S.A.

Write for further information

H. D. HERDER TOOL SPECIALTIES
3724 E. MICHIGAN AVE. KALAMAZOO, MICH.

If you write maker identify as IEN - 8679

FLOORS . . Sectional drain channel made of cast iron with grating cover

Source: STANDARD FOUNDRY PRODUCTS
220 W. 42nd St., Room 1600, New York 36, N. Y.

For yards, runways, basements

Drain-Master is a new cast iron sectional drain that assemblies in multiples for 12 in. section length. Overall length including the lapping shoulders is 13 inches. Width is 9¾ inches. Depth is 4¼, 6¼ or 8¼ inches. The complete assembly includes an end plate and a top grating cover.

Installation can be made in earth or concrete. Drain pipe or tile can be fitted in any or all four sides or the bottom as specified. Assembly does not require fastenings.

If you write maker identify as IEN - 8680

WRENCH . . Plier type tool, toggle action, 9 and 11 inch sizes

Source: LANE SHUR GRIP TOOL CO.
1418-22 S. Michigan Ave., Chicago 5, Ill.

List is $2.80 to $3.25

Throat depth has been increased as compared to the company's previous design. Tooth shape has been changed to angle to the rear in the upper jaw and to the front in the lower jaw to provide good "bite" action when the wrench is applied to turn pipe or cylindrical work. The toggle action is adjustable by turning a knurled screw at the rear of the upper handle so the locking effect will take place at the required work diameter.

The 9 in. unit will handle pipe or round work to 1 in. in outside dimensions. The 11-in. unit has capacity to 1½ inches. Application can be made as an ordinary plier, short of the toggle center point. Both sizes are available in plain design or with a wire cutter.

If you write maker identify as IEN - 8681

GOVERNMENT . . Booklet on defense activities lists Federal agencies with address, telephone number

Superintendent of Documents
Government Printing Office, Washington 25, D. C.

April-September 1952 edition of the "Handbook on Emergency Defense Activities" is a 128-page booklet intended as a guide to Federal agencies or agency divisions primarily concerned with the defense program. It lists names, addresses, officials, telephone numbers. It includes a subject index and a name index. List price is 30 cents direct from above address.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8682

USE ACME ELECTRIC DRY-TYPE TRANSFORMERS TO

- ELIMINATE DOUBLE WIRING
- DISTRIBUTE POWER AT HIGH VOLTAGE
- PROVIDE 3 WIRE SECONDARY CIRCUITS
- OPERATE 120 VOLT EQUIPMENT FROM POWER CIRCUITS
- BOOST VOLTAGE
- BALANCE VOLTAGE
- INSULATE CIRCUITS

Available in sizes 1 10 to 167 KVA, 1 phase 60 cycle, 9 KVA to 500 KVA 3 phase 60 cycle. Class "A" and Class "B" insulation.

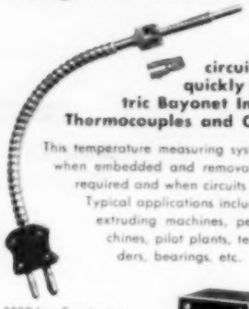
Write for Catalogs

ACME ELECTRIC CORPORATION
268 WATER STREET • CUBA, N. Y.

Acme Electric TRANSFORMERS

If you write maker identify as IEN - 8683

Twist Cap of Thermocouple & Plug In Connector



Thermocouple circuits completed that quickly with Thermo Electric Bayonet Immersion Contact Thermocouples and Connector Panels.

This temperature measuring system is principally used when embedded and removable thermocouples are required and when circuits are frequently broken. Typical applications include plastic molding and extruding machines, permanent molding machines, pilot plants, test stands, engine cylinders, bearings, etc.

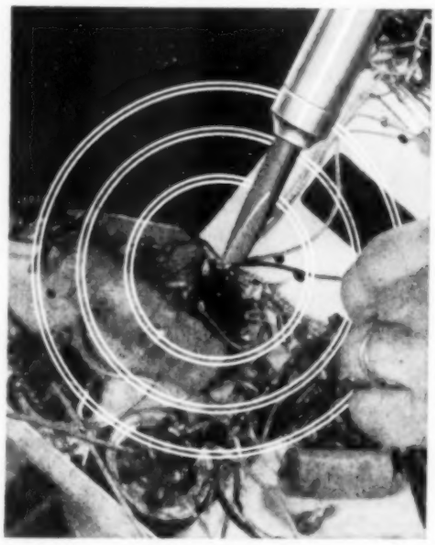
Type 202D Iron Constantan Bayonet Immersion Contact Thermocouple has silver tip for rapid response, drill angle taper for proper seating, spring tension for good thermal contact.

Type JBW Connector Panel with FS Conduit Box for 1, 2, 3, 4, or 5 circuits.

Write for Catalog Q

Thermo Electric Co. Inc.
FAIR LAWN NEW JERSEY

If you write maker identify as IEN - 8684



You can't beat a soldered connection

for electrical conductivity and permanence!

SOLDERED connections eliminate loss of current, fire hazard, radio interference and excess heat which result from loose, corroded, arcing NON-SOLDERED connections.

For over 50 years experts have specified American Beauty Electric Soldering Irons. They know American Beauty Irons are built to LAST LONGER, OPERATE DEPENDABLY and BE SERVICED QUICKLY.

Build better with solder . . . Solder better with American Beauty SOLDERING IRONS

WRITE FOR FREE LITERATURE

Dependable • Durable • Efficient

SINCE 1894

AMERICAN ELECTRICAL HEATER COMPANY
DETROIT 2, MICHIGAN 4-108

If you write maker identify as IEN - 8686

ALLEN Tru-Ground DOWEL PINS

Accurate to ± .0001" microinch finish of 8 R.M.S. Single shear strength from 190,000 to 210,000 p. s. i. Sizes from 1/8" to 1" diameter are standard in both .0002 or .001 oversize.

- So accurate they have been used as gauges
- So strong they have been used as bearings
- Maximum holding power against lateral thrusts

Allen Dowel Pins are ideal for economical jig and fixture work. Their extreme accuracy is maintained by scientific chart control throughout the manufacturing process.

SOLD ONLY THROUGH LEADING INDUSTRIAL DISTRIBUTORS

THE ALLEN MANUFACTURING COMPANY
Hartford 2, Connecticut, U. S. A.

If you write maker identify as IEN - 8687

Cut Your Costs by Redesigning for RETAINING RINGS

Gehl Harvesters and Hammer Mills are famous for their efficiency, rugged construction and continuous heavy duty service. By skillful designing for retaining rings Gehl Bros. Mfg. Co. of West Bend, Wisconsin saves metal, money and time. Perhaps you can too.

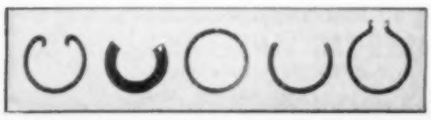
Hundreds of machines and products can and should be redesigned to take advantage of these inexpensive, yet highly efficient, artificial shoulders. Retaining rings are certain to save man hours as well as material.

To offset the rising costs of so many things here is one sure way to increase your margin of profit.

Don't cut down large shafts to make your shoulders—it's needless waste. Groove all shafts and housings and use these high grade steel rings.

Examine your machines and products today, and send for a descriptive folder of our many types of retaining rings.

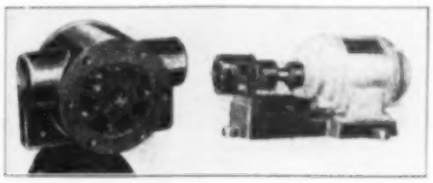
THE NATIONAL LOCK WASHER CO.
NEWARK 5, NEW JERSEY • MILWAUKEE 2, WISCONSIN, U. S. A.



If you write maker identify as IEN - 8689

PUMP . . Neoprene impeller is rotated in a hard rubber housing

Source: AMERICAN HARD RUBBER CO.
91-95 Worth St., New York 13, N. Y.



Completely corrosion proof

Acids, alkalis, viscous or thin liquids can be handled without danger of contamination or pump deterioration by this new design of the Jabsco pump, previously described IEN-9578-42. The company is employing hard rubber in the place of metal in the housing and is prepared to supply the pump with ¾-in. pipe threaded connections to deliver 15 gpm. at 22 ft., 5 gpm. at 72 feet.

Pumping starts instantly against suction lifts of 6 ft. without a foot valve. Lift to 14 ft. can be handled when the pump has been primed. Drive is by a ½-hp. motor operating at 1,140 rpm. The impeller for the pump is mounted directly over the Hasteloy motor shaft.

Pumping action is set up by flexing in the arms of the neoprene impeller as these arms are restricted by a flattened area in the housing between the inlet and outlet. Suction is set up on one side depending upon the direction of rotation and pressure is established at the other. The action reverses for operation equally well in either direction.

If you write maker identify as IEN - 8690

PIPE FITTING . . Rotary joint connects rotating and stationary lines

Source: SEAMLEX CO.
41-21 24th St., Dept. IE, Long Island City, 1, N. Y.

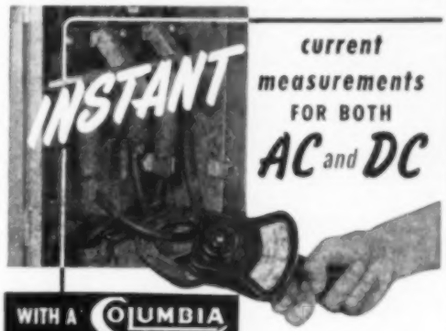
Ask for Bulletin 5500

Metal bellows positions and backs up a cup shaped retainer that carries a floating graphite seal ring in this new rotary fitting. The bellows, the retainer and a portion of the ring are visible through the cut-away section in the illustration. All three parts are stationary so far as rotation is concerned. The seal ring bears against the threaded connection at the right hand side of the assembly. This unit rotates with the equipment on which the joint is mounted. It is supported by a ball bearing inside the stationary housing of the fitting.

Two styles include the double siphon type fitting shown and one in which the siphon portion is omitted. Both are available in ½ to 1¼-in. main connections. The siphon design takes corresponding ⅛ and ½-in. internal pipe connections. Overall length is about 5¾ to 8½ in. in the single pipe assembly. It is 7½ to 10¾ in. in the double pipe unit. Housing diameter is 2¼ to 2¾ inches. The fitting is suited to handle steam, water, air. It operates under vacuum or pressure to 150 lb. and temperature to 350 deg. F. Maximum speed is 350 rpm.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8691



INSTANT current measurements FOR BOTH AC and DC

WITH A COLUMBIA

TONG TEST AMMETER

There is no other instrument like a Tong Test—it measures both A.C. and D.C. Readings are made instantly and accurately.

These outstanding features are yours when you use a Tong Test Ammeter:

- No breaking of circuit
- Operated with one hand
- Safe and convenient to operate
- Light weight—low price
- Scale ranges up to 1000 Amperes
- Voltage attachment available
- Five types to accommodate cables up to 2⅞", bus bars up to 4½" x ½"

Write for Tong Test Bulletin IQ-400

COLUMBIA ELECTRIC MFG. CO.
4519 Hamilton Ave., Cleveland 14, Ohio

If you write maker identify as IEN - 8692

EMERSON ELECTRIC EXHAUST FANS

for COMPLETE ventilation of commercial, industrial and institutional buildings

Belt Drive Exhaust Fans with 24 to 48 inch blades

Direct Drive Exhaust Fans with 12 to 30 inch blades

In this complete line of exhaust fans, you'll find the right model for the majority of air-moving jobs . . . *right* blade size . . . *right* capacity . . . *right* mounting for installation at any angle.

And ALL Emerson-Electric Exhaust Fans provide quiet, trouble-free performance season after season. Each unit is backed by 62 years of precision design and manufacturing experience.

For further information write today for Bulletin No. U72.

THE EMERSON ELECTRIC MANUFACTURING CO.
St. Louis 21, Mo.

EMERSON ELECTRIC
FANS • MOTORS APPLIANCES

If you write maker identify as IEN - 8693

NEW VIBRATION ABSORBING MACHINE LEVELING Empco JACK

Deadens noise and vibration.
•
Increases machinery life due to reduced vibration.
•
Saves time on installation and maintenance.
•

Tests have proven that "Controlled vibration means increased productivity and decreased maintenance costs." That is why the new Empco Jacks, featuring VI-SORB, the vibration absorbing mounting pads, save many times their initial cost. With the combined features of Empco's self-aligning, two-way control Jacks and VI-SORB pads, set-up and maintenance costs are greatly reduced. For complete data and prices on the new Empco Jack with VI-SORB pads, write or wire today. Immediate delivery.

EMPCO PRODUCTS

THE ENTERPRISE MACHINE PARTS CORPORATION
2737 JEROME AVENUE • DETROIT 13, MICHIGAN

If you write maker identify as IEN - 8694

you save 50% in TANK HEATING and COOLING with PLATECOIL

- ★ You SAVE 50% in tank SPACE
- ★ You SAVE up to 50% in initial COST
- ★ You have 50% LESS WEIGHT to handle
- ★ You SAVE 50% in maintenance LABOR as plates are changed from outside the tank without dumping solution

. . . besides all these you get faster heating or cooling. Take advantage of the engineering assistance offered by Kold-Hold to help you with your heat transfer problems.

Send for complete technical manual and descriptive Bulletin No. P56.

PLATECOIL
KOLD-HOLD MFG. CO.
LANSING 1, MICHIGAN

If you write maker identify as IEN - 8695

$1451 for G-E CAPACITORS CUTS POWER COSTS $1800 A YEAR!

Montrose Chemical Corp. of Calif. also relieves seriously overloaded transformers

Rapid postwar expansion seriously overloaded the transformers that supply power to the Montrose Chemical Corp. of California located in Los Angeles.

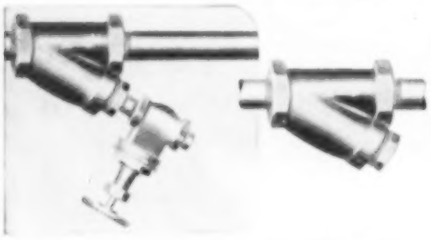
The plant's power factor was down to 76%, so G-E engineers recommended the installation of 180 kvar of G-E capacitors at a cost of $1451.

Capacitors improved power factor so that it is now up to better than 97%. They also relieved transformer overloading by reducing line current. And since Montrose Chemical has a power factor demand clause in its contract, power costs were reduced by $1800 a year. Thus the saving on power costs alone paid for the capacitors in less than ten months! *And these savings will go on indefinitely.*

They often hold key to lower power costs. If your power factor is below 85% and if there is a power factor or kva-demand clause in your power contract chances are you, too, can make worthwhile savings on your power costs by installing capacitors. For additional information, consult your local G-E Apparatus Sales Office, authorized G-E agent or distributor. Or write to Section 407-211 for Bulletin GEA-5632—"How to Use Capacitors to Reduce Power Costs and Gain System Capacity." *General Electric Company, Schenectady 5, N. Y.*

GENERAL ELECTRIC

If you write maker identify as IEN - 8696



a long time between BLOWDOWNS *with* ANDERSON STRAINERS

Anderson designs their pipeline strainers to give you the longest possible time between blowdowns or cleanings. A specially designed stainless steel mesh screen has a larger free area than ordinary metal screens . . . gives the strainer a larger dirt capacity. Standardize on longer-lasting Anderson Strainers. Protect your vital pumps, valves, regulators and steam traps. See your industrial distributor today.

THE V. D. ANDERSON COMPANY
1931 West 96th St. • Cleveland 2, Ohio
Write for Anderson Strainer Bulletin 252

Anderson STRAINERS

If you write maker identify as IEN - 8697

Hamilton *Steelwood* Drawing Tables

The *lifetime* strength of its heavy gauge furniture steel base makes the *Steelwood* a wiser investment than any other 4-post table. Full welded construction gives it the rigidity to take year after year of tough use with no loss of accuracy. A smooth-working, *concealed* raising mechanism adjusts the perfectly seasoned softwood top up to 42". Four top sizes, 5 drawer arrangements guarantee flexibility.

Permanently RIGID.. Permanently TRUE!

Get the full Steelwood story now. See your Hamilton Dealer or write for complete specifications and ordering data.

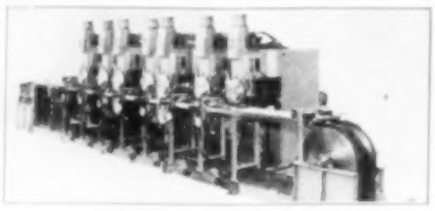
HAMILTON DRAFTING EQUIPMENT

Hamilton Manufacturing Company
TWO RIVERS, WISCONSIN

If you write maker identify as IEN - 8698

WELDING . . Resistance machine joins channels to aluminum sheet

Source: TAYLOR-WINFIELD CORP.
1040 Mahoning Ave., Warren, Ohio



Specified by a refrigerator maker

Aluminum channels to hold metal tubing through which refrigerant passes are welded in a six-wide row to an aluminum sheet by means of this new multiple head machine. The channels measure ⅝ in. in width by 60 in. in length and have ½-in. legs. The sheet is 0.032 gage and measures 13 by 60 inches. The machine measures 32 ft. in length. It requires an operator and an assistant to load and unload at each end for a production rate of 120 completed units per hour. A feature in the construction is a multiple high speed wheel dresser that removes aluminum picked up by the copper welding wheels so they remain clean for continuing service.

If you write maker identify as IEN - 8699

FILTERING . . Portable equipment to clean hydraulic oil in a machine

Source: J. N. FAUVER CO.
45 W. Hancock Ave., Detroit 1, Mich.

Oil service unit

Cuno filters are employed as first stage and second stage units in connection with a motor driven Yale & Towne Pump in this new hydraulic oil cleaning equipment. The filters, pump and motor are mounted on a four wheel hand truck. Intake and return hose assemblies are included to withdraw the oil from reservoirs on a machine and return it after it has been cleaned. Oil handling rate is 10 gpm. The two filters will remove all foreign matter down to 25 microns in size from the oil.

If you write maker identify as IEN - 8700

PAINTING . . Textbook gives instructions on how to select and apply a variety of product finishes

McKnight & McKnight Publishing Co.
Center & Market Sts., Bloomington, Ill.

"Finishing Materials and Methods" titles new 330-page book that lists at $4. It is intended to present background information on a range of materials from varnishes and enamels to fire retardents and flock, on methods from brushing to tumbling, and on 26 procedures for wood, metal, walls.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8701

Save TIME and HEADACHES

TRANSPARENT WORK RECORD HOLDERS

Because they keep work records clean and understandable, transparent work holders reduce costly mistakes in office and factory—and step up production. T.P.A.® envelopes by NAPLASCO are the quality leaders, featuring crystal clear plastic, leatherette bindings and reinforced corners. They are needed wherever men work to eliminate confusion, "misunderstands" and delays . . . and are particularly desirable on defense contracts where clear records are a "must."

Naplasco ®T.P.A. HOLDERS

Come in sizes and styles to meet your special needs . . . for work records, job ticketing, material control and many other uses.

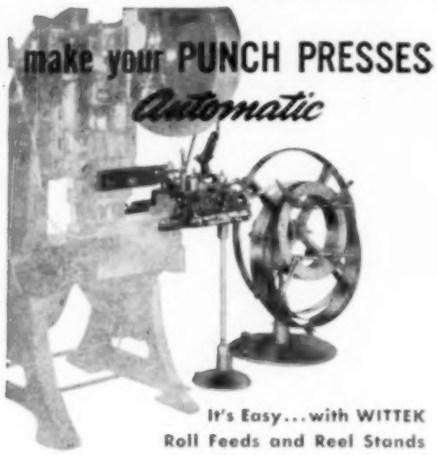
TRADE MARK

Write for low prices. FREE SAMPLE while supply lasts.

Makers of Binder envelopes • Blue Print Holders
Workshop Envelopes • I. D. Card Holders
Billfold Inserts • Plastic Specialties.

NATIONAL PLASTIC COMPANY
16 EAST 23RD STREET, NEW YORK, N.Y. • (GRamercy 7-1299)
8 SOUTH DEARBORN, CHICAGO, ILLINOIS • (CEntral 6-0025)
Main Office and Factory
2591 E. FOOTHILL BLVD., PASADENA, CALIF. • (RYan 1-8147)

If you write maker identify as IEN - 8702



It's Easy...with WITTEK Roll Feeds and Reel Stands

Wittek Roll Feeds handle any type of coiled strip stock and are made in single roll, double roll, and compound types with straighteners, in models to feed in any of four directions. They are reliable and accurate with simple, quick adjustment of feed length. Standard sizes and models meet a wide variety of press size and capacity conditions.

Wittek Reel Stands facilitate handling coiled stock.

Write for full particulars

WITTEK Manufacturing Co.
4336 W. 24th Place, Chicago 23, Illinois

Automatic ROLL FEEDS AND REEL STANDS

If you write maker identify as IEN - 8703

Need clean, even heat?

Here is pure, uniform electrical heat—radiated from a pane of glass!

Smokeless, dustless, flameless radiant heat from a paper-thin aluminum grid fused to the back of a strong, tempered glass panel.

Think of the places in your production process—in your *product itself*—where heating or drying can be done faster, easier, safer, cheaper with this remarkable new unit. Want to know more? Send today for our technical folder. Write to Dept. IEN-8.

CROSS SECTION
Grid
Glass
Terminals

RA-GRID HEATER PLATE
9 sizes: Ranging from 6 x 14" to 16 x 28"
Thickness: ¼"
Heat: Up to 300°F.
Voltage: 230 max. for 16 x 24" plates
Connections: Two terminals for connection of wires

RA-GRID HEATER PLATES
BLUE RIDGE GLASS CORPORATION • KINGSPORT, TENN.

If you write maker identify as IEN - 8704

FOR VENTILATION FUME AND DUST CONTROL AIR CONDITIONING

FLEXAUST

SPIRAL-REINFORCED HOSE LIGHT, STRONG AND VERY FLEXIBLE

Flexaust is of proved suitability for a wide variety of suction and pressure uses in ventilation, fume and dust control, air conditioning.

EXTREMELY EASY TO INSTALL—EFFICIENT AND ECONOMICAL IN USE

SIZES: 1¼" to 28" dia.

Various Flexaust types, accessories, and other hose types also available:

BLOFLEX
Non-reinforced
Collapsible hose

PORTVENT
Ring-reinforced
retractable hose

Write for full descriptive data and prices

AMERICAN VENTILATING HOSE CO.
Dept. IE-8, 100 Park Ave., New York 17, N. Y.
Plant: Amesbury, Mass.

If you write maker identify as IEN - 8705

USE HOUGHTON

Cosmolube

the multi-purpose grease with a high melting point

It adheres to metal and resists oxidation. Won't separate. Resists moisture. A heavy-duty grease that's used for HOT spots, COLD spots and WET spots throughout industry.

Try a drum of Cosmolube.

COSMOLUBE
...a product of

E. F. HOUGHTON & CO.
PHILADELPHIA · CHICAGO · DETROIT · SAN FRANCISCO

Ready to give you on-the-job service . . .

If you write maker identify as IEN - 8706

Why tie-up

BIG INVESTMENT MILLING MACHINES

with work that can be done quicker and easier on

BURKE BENCH MILLERS

It is amazing how much miscellaneous and production milling can be shifted from large millers to rugged, accurate, economical Burke Bench Millers.

Complete data on hand-feed, power-feed and universal models and attachments sent on request.

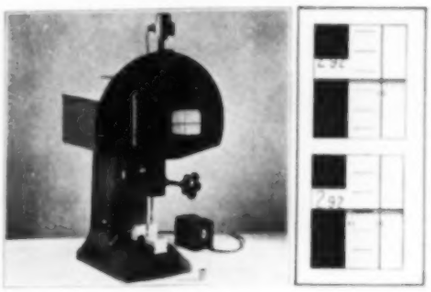
Thousands now at work in production lines and tool, repair, development and school shops.

The Burke Machine Tool Co.
A Division of the U. S. BURKE MACHINE TOOL CO.
BROTHERTON ROAD 5
CINCINNATI 27, OHIO

If you write maker identify as IEN - 8708

GAGE . . Dial type instrument measures work mounted on anvil

Source: BAUSCH & LOMB OPTICAL CO.
626 St. Paul St., Rochester 2, N. Y.



Reading shown is 2.9250 inches

Height at any location on a work piece, positioned under the spindle of this new Balcrometer gage, is measured to an accuracy within 0.0001 in. with a fifth-place decimal estimation easily made for work heights or depths not more than 3 inches. A measurement is set up after retracting the spindle above the anvil and then permitting it to return in counterweighted action until it contacts the work. Final adjustment is then made by turning a knob so the nearest division on the magnified illuminated vertical scale lies between two parallel lines on the horizontal scale. This turning movement sets the horizontal scale over at the same time to provide a reading on it in connection with a reference line on the vertical scale.

The vertical scale is graduated to 3 in. in 0.010 in. divisions individually numbered. Horizontal scale is graduated in one-hundred 0.001 in. divisions with every fifth line numbered. The scale illuminator is fitted with a heat-absorbing glass to minimize temperature changes within the instrument due to heat from the light source. Yellow-green, daylight and clear-glass filters can be selected by the operator.

Normal pressure of the spindle is 1 oz. but this can be changed for a fraction of that pressure by increasing the weight of the counterbalance. The measuring anvil presents a work surface of 1½ by 3¼ inches. The surface is ground, chromium plated and lapped to match an optical flat. In the event of wear through continuous service, the anvil can be turned over and also can be reversed endwise.

If you write maker identify as IEN - 8709

GEARS . . Fibroil blanks, 2½ to 34 in., width to 17 inches

Source: FIBROIL SILENT GEAR WORKS
Hook & 4th St., Tuscumbia, Ala.

No noise or chatter

The company announces purchase from General Electric of equipment and inventory with which it is now prepared to supply Fibroil gear blanks in specified sizes from 2½ to 34 in. in outside diameter and with the fabric portion of the blank from 1½ to 17 in. in width.

Construction is in oil impregnated staple cotton compressed under high pressure between steel shrouds and held with steel studs extending between the shrouds. Strength is equal to cast iron. Chief characteristic is silent operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8710

Red Devil
the FIRST and LAST WORD in
Floor Conditioning

Red Devil — the first complete line of modern floor maintenance machines — the last word in dependable, low-cost floor conditioning. Red Devil offers large and small machines for scrubbing, waxing, polishing and steel-wool cleaning office and factory floors of wood, linoleum or concrete. Each Red Devil Floor Conditioner is the best obtainable at its price.

FP-33 Versatile, easy to use, and inexpensive. 19 lbs. Two 6" brushes. 110 V. AC-DC.

FP-1 Heavy-duty floor maintenance. Scrubs, waxes, polishes, steel brushes. 210 RPM. 56 lbs. 110 V. AC (DC extra). Also available—the FP-2 with 13" spread.

FP-11 Fast, compact, light, multi-purpose 300 RPM. 33 lbs. Converts to hand polisher. 11" brush. 110 V. AC-DC.

FP-3 4-in-1 floor conditioner. Reconditions, waxes, polishes, scrubs. 180 RPM. 110 lbs. 17" brush spread. 110 V. AC.

Write for RED DEVIL Catalog 21M

Products of Red Devil Tools. 129 COIT ST. IRVINGTON 11, N. J. U. S. A.

If you write maker identify as IEN - 8711

Slimline Lamps
...via GRAYBAR

Coolness . . . long life . . . low cost . . . and easy maintenance offer important savings.

Manufactured in ¾", 1" and 1½" diameters, G-E Slimline lamps are available in long, standardized lengths (up to 8') . . . offer unique lighting flexibility as well as lowered maintenance costs.

G-E Slimline lamps permit the use of streamlined fixture designs required for modern lighting needs. And, by simply varying the fixture ballast, you can get any desired brightness level.

Slimline lamps — distributed by Graybar — light instantly without starters . . . produce more light per watt. Made with single pin bases, long-lived G-E Slimlines are easy to install and remove.

In addition, Graybar distributes over 10,000 different sizes and types of G-E lamps. Call your local Graybar Representative for help on any lamp or lighting problem. *Graybar Electric Co., Inc. Executive Offices: Graybar Building, New York 17, New York.*

Call Graybar *first* for . . .

Everything Electrical GraybaR

If you write maker identify as IEN - 8712

NEW! Cut your tooling costs

Install Chromaster Industrial Chrome Plating Unit in your own plant

There's reason after reason for installing Chromaster.

This simple, fast, low-cost industrial chrome plating process can mean dollar savings to you in increased production, minimized set-up and downtime on your machine tool operation. Normal tool life of your cutting tools and wear parts can be multiplied three to ten times by this new method of chrome plating production tools right in your own plant.

Compact, self-contained units can be operated at amazing speed—3½ minutes for the average job. There's a size Chromaster to fit the needs of every shop.

Send today for complete facts on industrial chrome plating with Chromaster.

Chromaster
INDUSTRIAL CHROME DIVISION
WARD LEONARD ELECTRIC CO.
33 South Street, Mount Vernon, N. Y.

If you write maker identify as IEN - 8713

Over 85% of the torque wrenches used in industry are

STURTEVANT TORQUE WRENCHES

Read by Sight, Sound or Feel

- Permanently Accurate
- Practically Indestructible
- Faster—Easier to use
- Automatic Release
- All Capacities

in inch ounces
...inch pounds
...foot pounds
(All sizes from 0-6000 ft. lbs.)

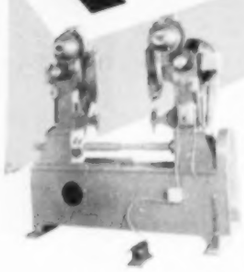
Every manufacturer, design and production man should have this valuable data. Sent upon request.

P. A. STURTEVANT CO.
ADDISON (QUALITY) ILLINOIS

If you write maker identify as IEN-8714

DOUBLE YOUR PRODUCTION WITH DOUBLE RIVITORS!

T-J



●Set two rivets at a time with this new T-J Dual Rivitor! Equipped with 10" hoppers, tooled to automatically feed and set two ¼" dia. x ¾" long wagon box head rivets at a time in assemblies for farm implements. Controlled by one foot pedal.

T-J Single Rivitors available *electrically* powered for 1/16" to ¼" diam. solid steel rivets up to ½" long; *air powered* for aluminum alloy rivets up to ¼" diam. or steel rivets up to ¼" diam., up to ½" long. Throat depth, 8" to 36". Write for bulletins 646 and 847. The Tomkins-Johnson Co., Jackson, Mich.

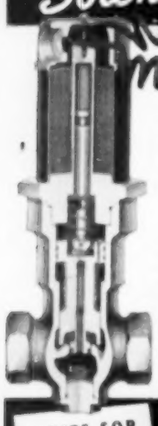
36 YEARS' EXPERIENCE (T-J)

TOMKINS-JOHNSON

RIVITORS · AIR AND HYDRAULIC CYLINDERS · CUTTERS · CLINCHERS

If you write maker identify as IEN-8715

ATKOMATIC *Solenoid* Valves



FOR AUTOMATIC OR REMOTE CONTROL

1. DAMAGING WATER HAMMER ELIMINATED.
2. ALL INTERNAL PARTS ACCESSIBLE without removing valve from line or breaking electrical connection.
3. PACKLESS—sealed operating chamber. No outside moving parts.
4. ONLY 3 MOVING PARTS, and no linkage of parts.
5. LINE PRESSURE IS MAIN ACTUATING FORCE—operates with slight pressure drop across seat.
6. OPERATING PRESSURES TO 3000 PSI.

ALL SIZES ¼" to 3"

WRITE FOR LITERATURE

Atkomatic Valve Co.
545 WEST ABBOTT ST.
INDIANAPOLIS 25, INDIANA

If you write maker identify as IEN-8716

REDUCE FILTRATION TROUBLES!

Need a filter but worried about filtration costs, operation, or suitability for your purpose? Then get your Free Copy of the Titeflex® Filter Booklet right away.

Ask for a Titeflex Engineer to set you straight on costs and equipment for your special needs. No obligation. Mail coupon today.

FREE BOOKLET... FREE ADVICE

Businesses served by Titeflex Filters include...

Chemical • Distilling	Dry Cleaning
Electroplating	Paints & Lacquers
Soap • Cosmetics	Water
Pharmaceuticals	Food Processing
Wine • Beverages	Edible Oils
Machine Tool	Food Extracts

Titeflex

Let Our Family of Products Help Yours

MAIL COUPON TODAY

TITEFLEX, INC.
506 Frelinghuysen Ave., Newark 5, N. J.

☐ Please send me a copy of your Free Booklet about Titeflex Filters.

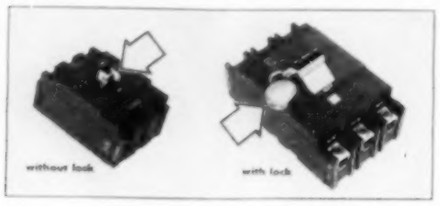
☐ We need the advice of a Titeflex Filtration Engineer — without obligation on our part.

NAME _____
TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____

If you write maker identify as IEN-8717

CIRCUIT BREAKER . . Lock attachment secures "on" or "off" lever position

Source: SQUARE D CO.
6058-62 Rivard St., Detroit 11, Mich.



To protect workers and circuits

The company announces a new line of handle locking attachments for its circuit breakers to protect electricians working on circuits or feeders and to assure continuous duty in circuits such as those for emergency lighting, alarms, clocks. In the latter case the device protects against accidentally opening the circuit without interfering with normal operation of the overload mechanism that will open independently of the trip-free handle in the event of a circuit fault.

The lock attachment is held in position with a screw. A padlock can be added to prevent removal of this screw until the padlock is removed first.

If you write maker identify as IEN-8718

FASTENING . . Washer equipped nails assemble light gage corrugated sheets

Source: FABRICATED PRODUCTS CO.
1952 Water St., West Newton, Pa.

Only light driving pressure required

An aluminum nail and double-head galvanized steel nail, both equipped with the company's Weath-R-Seal washer, previously described IEN-8658-49, have been added to the company's line of corrugated roofing and siding fastenings. The aluminum nail is not subject to corrosion. The double head galvanized steel nail can be driven without danger of damaging corrugations.

The washer in both cases seals against leakage when the nail is driven to compress the neoprene washer. Washer diameters range from ⅝ to 1½ inches.

Identify as IEN-8719

You can mount a light fixture on a moving machine table with the aid of a Benjamin extension-cord reel. You anchor the reel to the machine bed, extend the cord to a connection fitting on the carriage or table. The light fixture also connects to the fitting and you are all set. The reel pays out and retrieves the cord as the table rides the machine ways.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-8720

Loaded with Features for...

- Smoother Performance
- Longer Life
- Better Service

WECO

DROP-SIDE* SNATCH BLOCKS

Full swiveling forged steel hook designed for straight line pull . . . forged steel sheave is machine finished for smoothness . . . case hardened sheave pin has greater resistance to wear . . . "Super-Oilite" bearing is precision fitted, giving maximum load distribution . . . Snarl-Proof . . . Drop-Side assures fast easy stringing without using end of line of raising hook.

Superior design and construction adds to the performance, service and life of WECO SNATCH BLOCKS . . . gives them greater strength, safety and utility . . . makes them easier to handle and safer to use.

Ask your WECO or CHIKSAN Representative or write for latest information about WECO SNATCH BLOCKS.

* Patented

WELL EQUIPMENT MFG. CORP.
HOUSTON 1, TEXAS
CHIKSAN COMPANY

WECO

If you write maker identify as IEN-8721

to make a model . . .

. . or move a mountain

. . . let *Lamson* fill your Fastener needs

As one of the few "full line" fastener manufacturers, Lamson can greatly simplify your fastener procurement. For they can supply practically any type or size of bolt, nut or screw plus many special fastening devices such as wire rope clips, cotters and threaded studs.

So if you are now using one or more Lamson fasteners, consider the advantage to you of making Lamson & Sessions headquarters for *all* your fastener needs. It will simplify ordering, speed delivery and save you money in terms of clerical and billing time.

Lamson & Sessions

The LAMSON & SESSIONS Co.
1971 West 85th St. • Cleveland 2, Ohio
Plants at Cleveland and Bay Village • Birmingham • Chicago

If you write maker identify as IEN-8722

TEMPERATURE CONTROLLER

Automatically throttles gas supply to maintain desired temperature. Five ranges between 0 and 1000 deg. F. on supply pressures to one pound.

One feature of this No. 40 control is that its valve is moved only just enough to feed the gas needed by an oven, heater, melting furnace or soldering equipment to compensate for changes in heat demand as established through its temperature-sensitive bulb. There is no overshooting or undershooting around the control point which you set on its rotating dial.

One unit in our complete line of high as well as low-pressure gas controls, this No. 40 is made in four sizes for pipe lines of ⅜ to 1 inch, and five heat ranges, 0 to 150; 50 to 350; 100 to 450; 100 to 650 and 100 to 1000 deg. F. Standard equipment includes a 5-ft. steel temperature-sensitive, mercury actuated, flexible element. List prices range from $40 to $52 in uncalibrated and calibrated designs.

BULLETINS 206 AND 250 PROVIDE DETAILS. SHOW BULB CONSTRUCTION FOR SPECIAL INSTALLATIONS. BULLETIN 340 SHOWS COMPLETE LINE

THE PARTLOW CORPORATION
4 CAMPION ROAD NEW HARTFORD, N. Y.

If you write maker identify as IEN-8723

AMERICAN makes good STOCK gears ...conveniently available to you through *good* distributors

You'll find American STOCK Gears meet every requirement for high quality, accurate tooth contour, smooth, quiet performance and long life.

Complete line includes:

Spur Gears . . . Racks . . . Change Gears . . . Internal Gears . . . Miter Gears . . . Bevel Gears . . . Ratchets and Pawls . . . Spiral Gears . . . Worms and Worm Wheels.

Write us for name of distributor near you . . . Also request a free copy of Specification Catalog.

asg **AMERICAN STOCK GEAR** division
PERFECTION GEAR COMPANY • HARVEY, ILLINOIS

If you write maker identify as IEN - 8724

BLUE RIBBON RESISTORS

Our Blue Ribbon Resistor—designed in 1939—was the *first* flat or strip resistor in the field. And now, though there are others of similar type, our Blue Ribbon still holds first place—and *is still winning "blue ribbons,"* and such comments as quoted above.

Our crazeless gray enamel eliminates the disastrous crazing which results in failure of the resistive element.

The aluminum thru-bar distributes the heat more uniformly along its entire length—than conventional tubular resistors.

The studs are peened to serve as mounting supports and also to permit the stacking of units to save space.

As compared to the conventional tubular resistor Blue Ribbons give you:

1. Higher wattage rating per unit space requirement. 2. Reduction in space behind the panel or mounting surface. 3. Sturdy but simple mounting, either single or stacked. 4. Lighter weight. 5. Lower induction.

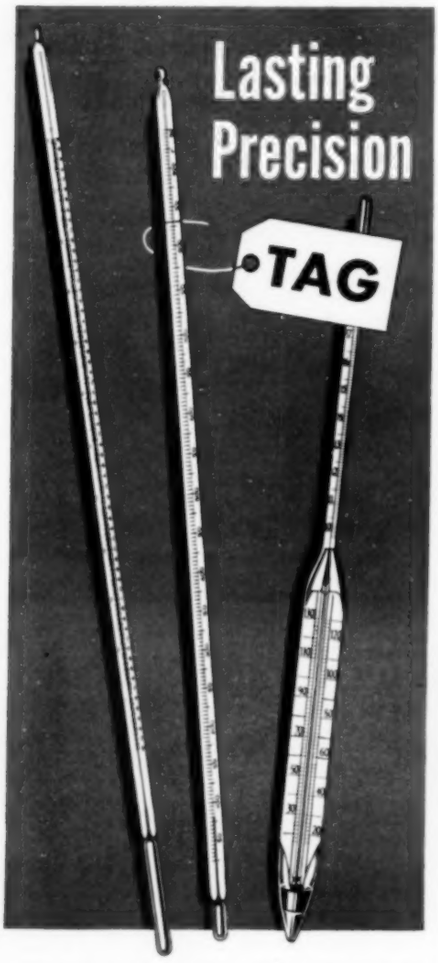
Our Blue Ribbons are designed for and manufactured in accordance with JAN-R-26A specifications.

HARDWICK, HINDLE, INC.
Rheostats and Resistors
Subsidiary of
THE NATIONAL LOCK WASHER COMPANY
Established 1886 NEWARK 5, N. J., U.S.A.

the mark of quality
for more than half a century

If you write maker identify as IEN - 8725

Lasting Precision



Favorites the world over because of their readability and permanent accuracy TAG etched stem thermometers are available in A.S.TM., Extreme Precision, and Standard Grades—as well as in Armored Types for special applications. Also A.P.I. Scale Hydrometers in plain or combined forms, and a precision grade for general use. Catalog gladly sent on request. WESTON Electrical Instrument Corporation, 617 Frelinghuysen Avenue, Newark 5, New Jersey . . . *manufacturers of Weston and TAG Instruments.*

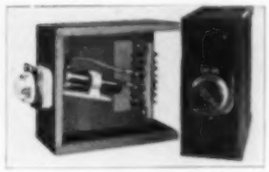
WESTON

WESTON *Instruments*

If you write maker identify as IEN - 8727

SWITCH . . Sealed mercury design, with push button or knob operation

Source: TIGERMAN ENGINEERING CO.
4330-34 N. Western Ave., Chicago 18, Ill.



Mounts in vertical panel

Safe operation in dangerous atmospheres is provided by this new circuit switch with its sealed mercury element. Circuit rating is to 35 amp. on 110-volt ac. The switching characteristics can be specified as single pole with single or double throw action. Assembly is on a tilting support operated by a knob or a push button at the front of a rectangular metal housing designed for panel assembly.

A spring returns the switch to original position when finger pressure is released from the push button design. The knob operated unit can be set in either "on" or "off" position where it will remain until changed. Line terminals are assembled in the housing and the switch is connected to them.

If you write maker identify as IEN - 8728

THREADING . . Nut type die cleans damaged threads, 1/4 to 3/4 inch

Source: HERBRAND DIVISION
1009-13 Stone St., Fremont, Ohio

List is $3.50 for set of eight

Eight sizes are included in the company's new No. 806 Thread Restorer nut type thread cutting die. It carries USS threads. A companion No. 808 carries SAE threads in the same range of sizes. A set of the dies is available in a shipping box. Each is accurately machined, heat treated and hardened to clean out damaged threads but not to recut a good thread. The hexagon flats on the outer die surface take a wrench.

If you write maker identify as IEN - 8729

ELEVATOR . . Portable design, hand hydraulic operation, 1/2 ton

Source: CENTURY PRODUCTS CO.
5927 Highway #7, Minneapolis 16, Minn.

Century 1000 designates a new hand-hydraulic portable elevator that will raise a ½-ton load from approximately floor level to a height of 4 ft. maximum on its 23 by 24-in. platform. The hand pump is a two-cylinder double-acting unit mounted at the rear of the housing beneath a push bar with which the operator moves the elevator from one location to another. Overall height is 64 inches. Base dimensions are 29 by 34 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 60

If you write maker identify as IEN - 8730

Towsley
INDUSTRIAL FLOOR TRUCKS

for Every Materials Handling Purpose

No. 421. The "50 Line" for department, food stores, supply houses, hotels.

No. 480. "Selector Truck" may be equipped with variety of upper trays, shelves for special application.

No. 509. All steel "All-Welded" general purpose, push handle both ends, adjustable shelves.

No. 791. Side dump with automatic couplers fore and aft for pulling in train.

No. 384. The "200 Line" level top general purpose truck — "All-Welded" steel frame—pipe push handles.

No. 786. Trailer type box truck with running gear mounted for perfect trailing.

There's an economy-wise, manpower-wise way . . . with Towsley Trucks! If you have a specific handling problem requiring special purpose equipment, let "Towsley give you a lift." For details write for Bulletin No. 50.

TOWSLEY TRUCKS, INC., 1756 Elmore St., Cincinnati 23, O.

If you write maker identify as IEN - 8731

For Dependable, High-Pressure Connections

High pressure connections are the best electrical connections. They are also the best mechanical connections because tests show that they have better ability to stay tight—are trouble free once installed.

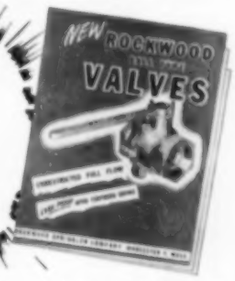
All connectors in the famous BLACKBURN Hi-Strength Line produce high pressure connections. Also, they are priced right to give you low cost connections that you can depend upon . . . Be sure to specify BLACKBURN!

SEND FOR CATALOG
JASPER BLACKBURN CORPORATION
35 Madison St. • St. Louis 6, Mo. • CEntral 3007

If you write maker identify as IEN - 8732

Get this fact-filled booklet on

The valve that's breaking records



Throughout industry Rockwood Ball Valves are chalking up new records for long life, safety and economy. Features like these tell you why:

Full Round Flow . . . Quick Opening and Closing . . . Resists Wear Longer . . . Stays Leak-proof.

Ideal for handling water, air, carbon dioxide, nitrogen, alcohol, paper fluids, paraffin and asphalt base petroleums and many other liquids and gases. Tested by Underwriters' Laboratories, Inc.

Get complete details on this great new advancement in valve engineering. Send for booklet. Rockwood Sprinkler Company, 40 Harlow Street, Worcester 5, Mass. Distributors in all principal cities.

ROCKWOOD BALL VALVES

THE FLOW IS AS ROUND AS THE PIPE ITSELF

If you write maker identify as IEN - 8733

WANT A TABLE GUMMER GLUE THAT REALLY WORKS?

Paisley research has developed three *brand new* Table Gummer Glues...

1. TABLE GUMMER *BOTTLE LABEL* GLUE
2. TABLE GUMMER *TIN CONTAINER* GLUE
3. TABLE GUMMER *SHIPPING LABEL* GLUE

Each of these fine new adhesives possesses distinctive characteristics. Each one is specially designed for the job it has to do. No *one* all-purpose Table Gummer Glue can work with the same speed and efficiency on tin, glass, paper and other packaging materials. Now, with the right kind of PAISLEY Table Gummer Glue, labeling operations of this type can be performed with greater speed and efficiency. Labels *stay put* . . . no shifting or falling off. Loose, torn edges, and spotty gumming are eliminated. Order a trial shipment TODAY, or send for free Adhesive Operation Data Sheet.

Paisley ADHESIVE

PAISLEY PRODUCTS INCORPORATED
Manufacturers of Glues, Pastes, Resin Adhesives, Cements and Related Chemical Products
1770 CANALPORT AVE., CHICAGO 16, ILL. • 630 W. 51st STREET, NEW YORK 19, N. Y.

If you write maker identify as IEN - 8734

Easy to Wire!
Easy to Get At!
Easy to Live With!

Write for Bulletin 8536. It tells the complete story.
Address Square D Company, 4041 N. Richards St., Milwaukee 12, Wis.

ASK YOUR ELECTRICAL DISTRIBUTOR FOR SQUARE D PRODUCTS

SQUARE D COMPANY

If you write maker identify as IEN - 8735

Here's Efficient, Dependable Air Supply

JOY WL-80 "UNITAIR" COMPRESSOR

- ★ A size for every standard motor rating
- ★ Force-feed lubrication
- ★ Small floor-space requirements
- ★ 81 to 640 CFM
- ★ Two Stage . . . Air cooled

And here's FREE HELP!

Bulletin A-56 . . . new, with 16 fact-filled pages and a Selector Chart. Write for it to select the right compressor for your needs.

Consult a Joy Engineer

W & D 13086

JOY MANUFACTURING CO.
General Offices: Henry W. Oliver Building
Pittsburgh 22, Pa.
IN CANADA: JOY MANUFACTURING CO. (CANADA) LIMITED
GALT, ONTARIO

If you write maker identify as IEN - 8736

Tops in motor ruggedness!
CROCKER-WHEELER form BA MOTOR
Squirrel-cage Protected-type

■ Put it on a machine tool, stoker, pump, compressor, or any other drive calling for a protected type motor. Mount it any way you like—NEMA D flange mounting, horizontal or vertical . . . NEMA C face mounting . . . drip-proof or splash-proof enclosures. Also equipped with the C-W brake where you want quick stops. An all-round tough motor, in NEMA frames 203 to 505, and ratings beyond.

CW-33 *Write for the BA Bulletin.*

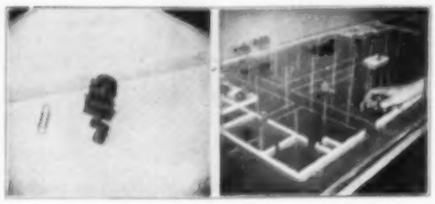
ELLIOTT COMPANY
General Offices & Main Plant Jeannette, Pa.

CROCKER-WHEELER DIVISION . . . AMPERE, N. J.
Branch Offices and Representatives in Principal Cities
Elliott Approved Service Shops Cover the Country

If you write maker identify as IEN - 8737

LAYOUT . . Scale size models of equipment, personnel and plant

Source: VISUAL PRODUCTION PLANNING INC.
Loisearing Ave. & 6th St., Connellsville, Pa.



To reproduce your plant in miniature

New line of ¼-in. scale size models of machine tools, plant equipment, accessory equipment, all making up a complete plant installation are available for layout purposes. The models are made of aluminum, brass, lucite, steel, wood and die castings. Each is a close copy in detail of the machine or equipment involved. The company can also supply scale size models of buildings, office equipment and any specified type of accessories to make a complete model layout.

If you write maker identify as IEN - 8738

FASTENING . . Spring steel clip mounts coil form in electronic chassis

Source: TINNERMAN PRODUCTS INC.
Box 6688-A, Dept. 14, Cleveland 1, Ohio

Typical unit for special duty

New design in the company's line of Speed Nuts mounts a coil form and tuning core in a panel and permits adjustment of the core. The unit is known as Type C9681. It is available for a No. 4-40 or 6-32 adjusting screw. Outside diameter of the coil form is 0.281 inch.

The core screw is threaded into place to start the assembly. The nut prongs providing correct pressure on the screw shank. The coil tube is next inserted and retained by means of four small barbs. This assembly is then snapped into the chassis. A tab engages a small hole in the panel to prevent turning.

Identify as IEN - 8739

Unusual combination of properties available in Carboloy's new Series 600 chrome carbides, previously described IEN-12135-51, may suggest an application in your own products or equipment requiring resistance to corrosion, erosion, abrasion or high-temperature oxidation. Data Sheet 127-1151E shows how it stacks up in corrosion resistance with other cemented carbides and 18-8 stainless steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8740

Make your *Eye Safety Program* a real success!

Supply WATCHEMOKET eye SAVERS

Insure the success of your eye safety program by supplying goggles that workers will actually wear! The light, comfortable fit and good looks of Eye-saver plastic goggles make them popular with workers everywhere. Available from your safety supplier in many different styles to meet all eye hazards. Tuc-Away model (illustrated) features "telescoping" temples with frame fashioned for "change-around" lens plan.

FREE! *Send for magazine article giving impartial advice on best uses of plastic eye protection. Eye-Savers catalog also included.*

WATCHEMOKET OPTICAL CO., INC.
DEPT. 7, PROVIDENCE • RHODE ISLAND
Producers and Originators of Practical Plastic Eye Protection

If you write maker identify as IEN - 8741

Goodbye Elbow Grease!

Use **HAND-I-HACK®** **Portable POWER HACK SAW**

TAKE IT EASY—let electricity do your muscle work! Hand-I-Hack eliminates the sweat and fatigue of hack sawing. Plugs into any wall or light socket. Truly portable — can be carried anywhere with one hand. Has swivel vise — operates in any position: horizontally, vertically, at an angle, even upside down. Maximum capacity: 2" x 2" square cut. Uses lower cost standard 10" hand blades — will cut solid bar stock and thin wall tubing, pipe, conduit, cable, rolled forms, etc.

Cutting small diameter brass tubing, using wood block tube saw.

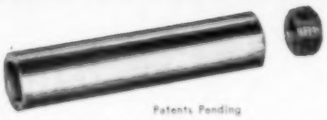
Making a square cut on solid 2" round bar.

• *Write for catalog and name of dealer*

Lipe-ROLLWAY CORPORATION
Manufacturers of Automotive Clutches and Machine Tools
812 Emerson Ave., Syracuse 1, N. Y.

If you write maker identify as IEN - 8742

***How* SQUARE HOLED SLEEVES SPEED UP TOOL-MAKING!**



Patents Pending

One of the most difficult problems in tool making can be solved easily and quickly with Sturdy Square Holed Sleeves. The perfection of broached square holes can be had in boring bars, milling cutters and many other applications at a small fraction of the cost of imperfect hand-made square holes. The sturdy Square Holed Sleeve consists of a round sleeve with a perfectly square hole broached through the center. This hole is tapped at one end to receive a back-up screw which is furnished with the sleeve. The sleeve can be sweated or pressed into a drilled and reamed hole to make a perfectly square accurate hole in a very few minutes.

The Sturdy Square Holed Sleeve will save you many hours and many dollars in the making of boring bars, tool holders and other tools requiring square holes.

BUSHINGS MADE IN FOLLOWING SIZES:
3/16, 1/4, 5/16, 3/8, 7/16,
1/2, 5/8, 3/4, 1"

Write for Literature

STURDY BROACHING SERVICE
23516 TELEGRAPH ROAD, DETROIT 19, MICH.

If you write maker identify as IEN - 8743

U. S. I. SOUND POWERED TELEPHONES HELP ADJUST GIANT PRESS

After assembly, it takes two skilled men to adjust Lake Erie Engineering Corporation's 26-foot high, two million pound, artillery shell press. Cooperative precision adjustments, between one tester and the other are imperative. There must be no misunderstanding — even in a noisy shop.

To insure "correctly interpreted instructions" Erie supplies each tester with a complete U. S. I. Sound Powered Station. The result is conversational clarity, portability, and without the fuss of batteries.

UNITED STATES INSTRUMENT CORPORATION
SUMMIT • • • NEW JERSEY

If you write maker identify as IEN - 8744

Exact, Automatic Formula Control with NEPTUNE METERS

You just push buttons and open the valve. The Auto-Stop meter does the rest . . . automatically shuts off at exact amount of liquid required by your formula. Stops waste, ends spoiled batches, and keeps close tabs on inventories. Handles over 100 industrial liquids. Ask for helpful Bulletin 566-MI.

NEPTUNE METER COMPANY
50 West 50th Street • New York 20, N. Y.

Just reach for the phone!

ATLANTA	Lamar 5016	LOUISVILLE	Jackson 2293
BOSTON	Hancock 6-9123	NEW YORK	Columbus 5-3994
CHICAGO	Sacramento 2-4014	NO. KANSAS CITY	Hartley 3345
DALLAS	Riverside 4904	PHILADELPHIA	Locust 4-3170
DENVER	Main 3221	PORTLAND, ORE.	Broadway 0100
LOS ANGELES	Michigan 5112	SAN FRANCISCO	Garfield 1-8144

If you write maker identify as IEN - 8745

IMAGINATION plus BEAD CHAIN

means BETTER PRODUCTS

WHAT OTHERS HAVE DONE: Here are a few of the scores of ways in which alert designers have taken advantage of the unique combination of useful qualities that make Bead Chain "The Kinkless Chain of a Thousand Uses".

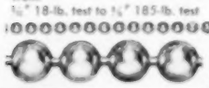
LOW-COST, THREE DIMENSIONAL SPROCKET DRIVE Made possible by non-kinking, free-swiveling action of each bead. Slippage is absolutely prevented as each bead fits into an individual pocket. Bead Chain drives have been proved on many products such as business machines, television tuners, venetian blinds, etc.

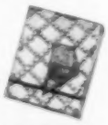
RETAINER FOR STRAYING PARTS Saves time at plant or at home by keeping straying parts at hand. Adds value and sales appeal for pennies.

CONNECTOR FOR SAMPLES For fabrics, paint, plastics, etc. Convenient, non-kinking, attractive, strong.

It will pay you to think how Bead Chain could help improve your product. As the world's largest manufacturer of Bead Chain, we offer the "know-how" acquired in applying Bead Chain to meet the requirements of thousands of uses. Call on us.

Bead Chain is available in many metals and finishes, and in five sizes, from:
1/16" 18-lb. test to 1 1/4" 185-lb. test





Now! Bead Chain Catalog-Data Folder. Write today!

BEAD CHAIN®

The Bead Chain Manufacturing Co.,
59 Mt. Grove Street, Bridgeport, Connecticut.

If you write maker identify as IEN - 8747

GAGE . . Dial indicator mounted on one piece base and shank

Source: LUFKIN RULE CO.
1948 Hess Ave., Saginaw, Mich.

For universal application

Exact alignment that can be maintained indefinitely in service is assured by the design of this new indicator in which the operating mechanism is mounted securely on the base independent of the case. The mechanism includes a jeweled thrust bearing. No lubrication is required. The case ring, or bezel, contains the dial and is adjustable so zero can be set at any position in relation to the pointer. The dial shown in the illustration reads to 0.050 on both sides of zero.

If you write maker identify as IEN - 8748

FLOORS . . Rubber link mat made from scrap truck tires, any size

Source: KOFFLER SALES CORP.
3755-59 N. Racine Ave., Chicago 13, Ill.

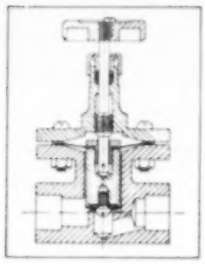
It is easy on tired feet

Individual links in the company's new floor mat measure 3 in. in length by about 5/8 in. in thickness. They are cut from the carcass of scrap truck tires. They are woven on heavy gage wire in an assembly that will follow the contour of the floor on which the mat is laid. The surface is skid proof, shock absorbing and comfortable for a standing worker. The mat can be rolled up for storage or to clean the floor.

If you write maker identify as IEN - 8749

VALVE . . Stainless steel globe, diaphragm sealed for vacuum service

Source: ASSOCIATED VALVE & ENGINEERING CO.
1150-2 W. Marquette Road, Chicago 21, Ill.



One piece body

Sizes range from 1/4 to 1 in. for this new Series-1119 diaphragm sealed valve. The assembly also employs stem packing that maintains a seal if the diaphragm breaks. The valve is designed for service ranging from vacuum to 50 lb. with maximum temperature at 500 deg. F. It is suited to handle liquid or vapor.

Construction is standard in stainless steel but other alloys of any machinable bar stock can be specified. A Teflon disc is standard. Metal-to-metal seating is available. Operation is by hand-wheel or, to specification, with an integral solenoid or electric motor should these be required.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8750

What's in a Name? PLENTY!... IF THE NAME IS Prep-n-Cote

The Outstanding PHOSPHATE COATING PRODUCT for Iron, Steel and Aluminum

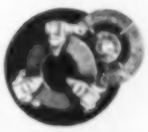
Phosphate coating is an accepted procedure for preparing metals for enduring paint protection, and Prep-n-Cote represents the finest product for this purpose . . . Phosphate coat and chemically condition metal . . . Reduce phosphatizing and attendant maintenance cost . . . Eliminate sludge and scale from processing . . . provide a metal conditioning and phosphate coating process for all manufacturers regardless of their available equipment. Prep-n-Cote is economical to use.

WRITE FOR BULLETIN 48-91.

NEILSON CHEMICAL CO.
3682 Tecumseh Rd., Windsor, Ont. — 8341 BENSON ST., DETROIT 7, MICH. — 2411 Union Pacific Ave., Los Angeles 21, Calif.

If you write maker identify as IEN - 8751

You Ride — Not Push



This Versatile Cart

GAR-BRO Manufacturing Company's POWER-CART not only handles big loads of concrete or loose materials, but permits the operator to ride from mixer to placement. ROCKFORD CLUTCHES control the power transmission needed for maneuvering over rough ground and in close quarters. Let ROCKFORD clutch engineers help develop flexible power transmission control for your machines.

B-W ENGINEERING MAKES IT WORK
B-W PRODUCTION MAKES IT AVAILABLE
ENGINEERING BULLETIN SENT ON REQUEST

ROCKFORD CLUTCH DIVISION
301 Catherine Street, Rockford, Illinois, U. S. A.

ROCKFORD CLUTCHES

If you write maker identify as IEN - 8752

ROLLED STEEL PIPE FLANGES

for all types of service

18" I. D. TO 144" O. D. CARBON, ALLOY OR STAINLESS STEEL

Inquiries Invited
STANDARD STEEL WORKS DIVISION
BURNHAM, PA.

BALDWIN-LIMA-HAMILTON
General Offices: Philadelphia 42, Pa. Offices in Principal Cities

If you write maker identify as IEN - 8753

LIFT at Lowest Cost!

GET THIS BOOKLET FOR FACTS ON THE HOIST THAT WILL SERVE YOU BEST!

Read *why* the Whiting Electric Chain Hoist is the *lowest* in operating cost . . . *why* it is the *safest* hoist and the *easiest* to operate. And read about the *exclusive* Whiting Warranty Plan, too. All this information, plus data on models and capacities is contained in Bulletin H-112. Write for a free copy now!

WHITING CORPORATION 15629 Lathrop Ave. • Harvey, Illinois

WHITING ELECTRIC CHAIN HOIST

If you write maker identify as IEN - 8754

which roller bearing is best for your problem?

. . . obviously one that is best suited to your machinery's particular requirements. You would want maximum capacity, smooth precision performance, long life, dependability with the least maintenance and of course an adequate range of sizes. McGill MULTIROL Bearings have been delivering this insurance for successful machinery for over 20 years. With today's increasing production demands it will pay you to specify MULTIROL. Write for complete information in the new McGill Catalog No. 52 today.

CF Series

Multirol CF Series Bearings have an extra heavy outer race section that provides loads in cam actioned or guide and support roller applications on automatic machinery.

Rollers Roll More Load

Write today for the new Catalog No. 52. McGill Manufacturing Co., Inc., 100 N. Lafayette St., Valparaiso, Indiana.

McGILL

precision bearings

If you write maker identify as IEN - 8755

LARGE OR SMALL

SHORT OR TALL

Electroline Fittings

ARE THE CHOICE OF ALL

There's an Electroline Wire Rope Fitting to suit your every need. Actual tests have proved their great holding power in all applications, regardless of size or type.

Electroline Fittings are installed easily and safely with ordinary tools—by unskilled labor in a matter of minutes—without the danger of molten metal or acids—without blow torches or special tools.

To give you the whole story of Electroline Wire Rope Fittings, we have prepared a pocket-size illustrated catalog, filled with information of sizes and types. Why not send for your copy today?

Electroline COMPANY
4121 SOUTH LA SALLE STREET
CHICAGO 9, ILLINOIS
IN CANADA: POWERLITE DEVICES, LTD., TORONTO

If you write maker identify as IEN - 8756

Femco COMMUNICATION

"Trolleyphones ended all mixups between pushers and hot cars at our coke ovens. Now they're always lined up at same ovens."

FOR MINES FOR MILLS

Easy to Buy • Easy to Install • Easy to Use • Make Us Prove It

Femco TROLLEYPHONE

Uses existing wires and power supply to provide clear voice communication over loud speakers. Bulletin No. 25.

Femco AUDIOPHONE

Wherever wires can be laid or run you can have Femco Audiophone systems installed. Bulletin No. 26.

LOW COST • LOW MAINTENANCE

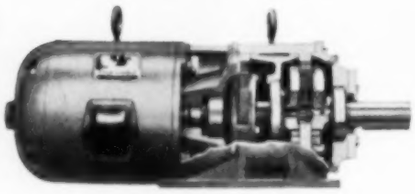
"YOUR VOICE OF ACTION"

FARMERS ENGINEERING & MANUFACTURING COMPANY
349 Brighton Ave., Pittsburgh 21, Pa.

If you write maker identify as IEN - 8757

MOTOR . . Gear head design, ½ to 75 hp., ratios 2.5 to 97 to 1

Source: STAR-KIMBLE MOTOR DIVISION
202 Bloomfield Ave., Bloomfield, N. J.



Detailed in Bulletin B-601

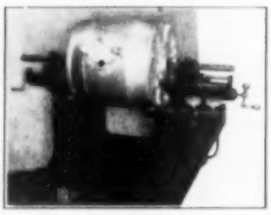
The company announces a new line of Gearmotors in squirrel-cage and wound-rotor ac. design and in shunt, series and compound dc. units. The geared head can be planetary, off-set or right-angle worm-and-gear. Frame construction includes open drip-proof, totally-enclosed non-ventilated, totally-enclosed fan-cooled. Mounting can be made horizontally on a wall, a ceiling or in vertical position.

Rotating shafts ride on anti-friction bearings to include ball-bearings in the motor and tapered roller bearings to eliminate end play on the output shaft. Splash type lubrication bathes the gears and bearings in oil. Seals prevent leakage.

If you write maker identify as IEN - 8758

MELTING . . Electric furnace takes a 62 lb. charge of alloy iron

Source: DETROIT ELECTRIC FURNACE DIVISION
1002 26th St., Bay City, Mich.



Ask for Bulletin 527

Bearing metal, alloy iron, stainless steel are representative metals that can be melted and poured with this new motor operated rocking type electric furnace. It is known as Type GMS and represents recently improved construction in the company's line of electric melting equipment.

The rocking action for melting and the tilt to pour are operated by a new 3-phase reversible motor drive replacing a previous single phase assembly. Electrode brackets are mounted independently of the shell to assist in shell replacement and to minimize wear on the flexible electric leads. The unit is available with transformer and control equipment ready for installation. It will melt 80 lb. of 80-10-10 bearing metal in 20 min., 62 lb. of alloy iron in about 35 minutes, 63 lb. of stainless steel in 40 minutes.

Identify as IEN - 8759

Having trouble sealing hermetic connectors into metal housings? T. C. Wheaton Co. presents a number of suggestions on methods in its new Connector Catalog W-52.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8760

ONLY THE "YARD BIRD"

▶ SWEEPS 100,000 SQ. FT PER HOUR!
▶ SIMPLY ATTACHES TO ANY FORK LIFT TRUCK!

Attaches in Less Than 5 Minutes!

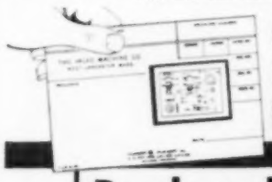
See Your Lift Truck Dealer for Demonstration

▶ EXTREMELY LOW COST!
▶ FOR LARGE AREA SWEEPING INDOORS OR OUT!
▶ HAS BUILT-IN SPRINKLER SYSTEM!

WRITE TODAY for prices, details, on this inexpensive, new-type powered sweeper which rapidly adapts your lift truck to large-area sweeping. Provides ideal, fast clean-up for factories, warehouses, airports, aircraft plants, railroads, etc. Rugged 6.8 HP gasoline engine, easily-dumped floating dust pan. Simply adjusts for snow removal, too!

LITTLE GIANT PRODUCTS, INC.
1530 North Adams Street, Peoria 30, Illinois

If you write maker identify as IEN - 8761



A 24"x36" DRAWING

Ready to be filed!

Need more vault space in your engineering department? . . . Need a faster way to find and use your engineering drawings? Filmsort® will give you *both!*

Filmsort — individualized microfilm in file cards — combines the reduced microfilm image of a drawing with any popular card filing system. Filmsort condenses your drawings; makes them easier to file and find — in a fraction of their present space. Don't wait! Write — right now — for the money-saving solution of your drawing, specification or data filing problem.

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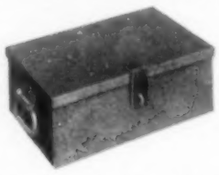
DEPT. I, PEARL RIVER
NEW YORK

If you write maker identify as IEN - 8762

SPARE PARTS BOXES

MADE TO JAN-B-233
JOINT ARMY-NAVY SPECIFICATIONS



With or without internal framing partitions

Type "M" (Metal)

Fabricated and finished in strict compliance with Government specifications. Made in all nominal and special sizes.

WRITE, WIRE OR PHONE FOR PRICES ON YOUR SPECIFIC REQUIREMENTS

COLUMBIA METAL BOX CO.
250 E. 143rd St., New York 51, N. Y.

If you write maker identify as IEN - 8763

DIAPHRAGMS

FOR ALL INDUSTRIAL APPLICATIONS

One of Acushnet's many specializations is in the field of diaphragms. We have achieved notable success in the design, development and molding of all types of diaphragms, with or without fabric inserts, from the size of a dime up to three feet in diameter.

Special stocks are expertly compounded with properties to resist various fluids and gases, extreme high or low temperatures, or combinations of these requirements. We are equipped to produce rubber diaphragms bonded to metal.

Acushnet PROCESS COMPANY

Send for your copy of the Acushnet Rubber Handbook, a comprehensive rubber data reference for all types of molded rubber parts.

Address correspondence to 768 Belleville Ave., New Bedford, Mass.

If you write maker identify as IEN - 8764

STRETCH MANPOWER

with

ELECTROLIFT

worm drive hoist

Just one man can lift and move those heavy loads around your plant, with ElectroLift.

Safe, compact, smooth, quiet, fast . . . with a choice of many models for any use. Capacities up to 6 tons. Optional pushbutton control gives pin-point accuracy.

For further features, consult your Electro-Lift representative in telephone directory.

ELECTROLIFT

ELECTROLIFT, INC., 28 CHURCH ST., NEW YORK 7, N. Y.

If you write maker identify as IEN - 8765

SOLID . . . as a rod

FLEXIBLE . . . as a wire rope

TRU-LAY Push-Pulls snake around obstructions. Provide positive remote action for operating clutches, gates, slides, etc. Operate while flexing. Weatherproof, dustproof types. Capacities up to 1000 pounds input.

Write our Detroit office today for DH-287

TRU-LAY PUSH-PULL CONTROLS

ACCO

AUTOMOTIVE AND AIRCRAFT DIVISION
AMERICAN CHAIN & CABLE

601 Stephenson Bldg., Detroit 2
2475 Porter St., Los Angeles 21 • Bridgeport, Conn.

If you write maker identify as IEN - 8767

INCINERATOR . . For plant refuse, factory assembled, 500 lb. per hour

Source: BRULE INCINERATOR CORP.
405-9 S. Dearborn St., Dept. F-5, Chicago 5, Ill.

No smoke, sparks, fly ash

Industrial trash is charged through a hopper type door equipped with a hinged counter balanced cover in this new factory assembled Trash Burner. The trash drops into a firing chamber from where it moves to a combustion chamber where it is burned and where fly ash separates out. Products of combustion pass through an up-pass chamber where combustion is completed. Secondary air is introduced to make certain of complete combustion within the unit. No burning occurs in the stack so outlet temperatures of the flue gases do not exceed 700 deg. F. when flame temperature in the burning chamber is 2,400 deg. F.

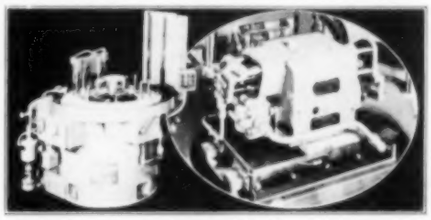
Assembly is in an outer shell of shaped steel panels with insulating material 1¾ in. in thickness. Air is introduced between the outer insulated shell and the interior suspended fire brick. This air cools the shell and is preheated to promote combustion. Outer wall temperature will not exceed room temperature by more than 40 deg. F.

Two sizes rate 300 and 500 lb. per hour. Approximate overall dimensions are 75 by 63 by 76 in. and 93 by 63 by 76 inches. Weights are 9,500 and 12,000 pounds. The exhaust flue in both cases is 15 in. in inside diameter.

If you write maker identify as IEN - 8768

DRILLING . . Special machine for holes inside jet engine housing

Source: BUHR MACHINE TOOL CO.
815 Green St., Ann Arbor, Mich.



A jet engine requires it

This new machine mounts a reciprocating type of drill head on a hydraulically operated horizontal slide to carry four drills on each of the two opposite faces. The drills are driven by a hydraulic motor to work alternately as the head is moved from one end of its slide to the other. The work surrounds the head. Indexing equipment positions for the groups of holes that are to be drilled.

The company also has designed and built a companion one to thread the holes. Its construction is essentially the same except that the taps are driven by a master lead screw.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8769

with MULTI-CLEAN CONCRETE FLOOR FINISHES and THE MULTI-CLEAN METHOD

Concrete floor maintenance ceases to be a time killer and financial burden with the efficient, economical Multi-Clean Method. Multi-Clean Neo-Dry Concrete Sealer or Multi-Clean Concrete Preserver fortifies concrete against abrasion, oils, acids. Eliminates flaking and dusting. Conditions surface for heavy traffic by imparting a tough, sanitary finish . . . is an excellent base for Multi-Clean Anti-Slip Waterproof Wax.

Eliminate long hours of scrubbing and sweeping with the Multi-Clean Scrubber and Multi-Clean Wet-Dry Vacuum, a floor maintenance team unexcelled for reducing floor care time and costs on every type of floor. Write us about your floors and we will show you how to profit by using the Multi-Clean Method.

Write Multi-Clean Prod., Inc., Dept. IE-8 for information

Multi-Clean All-Purpose Scrubber

Multi-Clean Wet-Dry Vacuum

MULTI-CLEAN

2277 Ford Parkway
ST. PAUL 1, MINNESOTA

free! FLOOR MANUALS: Handy file size, each manual deals with a specific type of floor, its characteristics and care . . . concrete, terrazzo, wood, asphalt and rubber tile, linoleum.

If you write maker identify as IEN - 8770

SERVICE MANAGERS PROVE

KLIXON PROTECTORS

Reduce Motor Burnouts and Service Problems

Reports from service managers, electric motor repairmen, heating and air conditioning dealers throughout the country prove that Klixon protectors help to prevent motor burnouts in electrical appliances of all types. In addition, their records show that Klixon protectors reduce motor service calls to a bare minimum.

You, too, can provide your dealers and their customers with motor burnout protection by specifying that your motor manufacturer supplies you with motors that have Klixon protectors built in. The additional cost is exceptionally low, while the benefits are high.

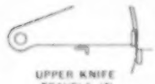
SPENCER THERMOSTAT
Division of Metals & Controls Corporation
208 Forest St., Attleboro, Mass.

KLIXON

If you write maker identify as IEN - 8771

PIVOTED-BLADE SHEAR

A Revolutionary Design!



UPPER KNIFE TRAVELS IN CIRCULAR PATH

Radically different from all other metal-cutting shears. Overcomes handicaps of ordinary guillotine-type shears. No slides or guides to wear. Many other important features. All sizes for metal to 1-1/4" thick or 18'-0" long.

STEELWELD Pivoted-Blade SHEARS CATALOG No. 2011

Send for free Catalog No. 2011

THE CLEVELAND CRANE & ENGINEERING CO.
4207 East 282nd St., Wickliffe, O

STEELWELD SHEARS

If you write maker identify as IEN - 8772

now

ONE GOVERNOR
ONE MODEL . . .

for 9 out of 10 industrial and farm engines

PIERCE
LONG RANGE
UNIVERSAL
GOVERNOR

● Instant variable speed selection and accurate engine control at any speed setting within 1200 to 2600 RPM. Higher and lower ranges obtainable by simple change of pulley. Also "constant speed" operation.

● Accurate, dependable speed control for engines operating corn shellers, drag lines, hoists, arc welders, trucks and tractors with power take-offs, etc.

List Price $39.50
Pulley Extra 4" $1.70 5" $1.75

Write for Complete Information

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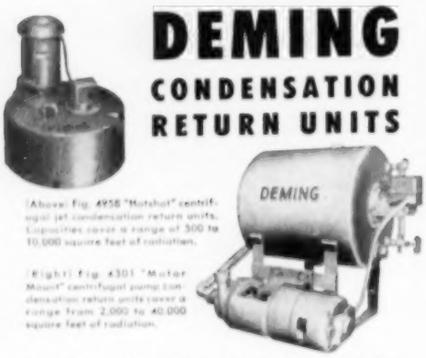
THE PIERCE GOVERNOR COMPANY, INC.
1040 Ohio Avenue, Box 1000, Anderson, Indiana, U. S. A.

WORLD'S MOST EXPERIENCED GOVERNOR MANUFACTURER

If you write maker identify as IEN - 8773

If you write maker identify as IEN - 8774



DEMING CONDENSATION RETURN UNITS

(Above) Fig. 4958 "Hotshot" centrifugal jet condensation return units. Capacities cover a range of 500 to 10,000 square feet of radiation.

(Right) Fig. 4301 "Motor Mount" centrifugal pump condensation return units cover a range from 2,000 to 40,000 square feet of radiation.

These modern, efficient "fuel-savers" return the condensate from steam coils, radiators, or steam-operated equipment back to the boilers.

Deming "Hotshot" units are unusually compact and require very little floor space.

Deming "Motor-Mount" units are made in Single and Duplex models. Motors have standard "NEMA" type "C" mounting flange and are furnished for single phase, two or three phase or direct current, as specified.

Write for BULLETIN NO. 4400 which includes performance tables of capacities, pressures, and other useful data.

THE DEMING COMPANY
521 BROADWAY • SALEM, OHIO

If you write maker identify as IEN - 8775

If you write maker identify as IEN - 8776

GRINDING . . Bench type machine, ¼ horsepower motor, 6 inch wheels

Source: STANLEY ELECTRIC TOOLS
478-82 Myrtle St., New Britain, Conn.

For general utility

Number 246 is a new design in the company's line of bench type grinding machines in which the ¼-hp. ball bearing motor is mounted inside a housing with a flat front surface to clear work extending between the two wheels. The motor operates at 2,850 rpm. on full load, 3,450 rpm. at no load. It is standard for 60-cycle single phase ac. at 110 or at 220 volts.

Equipment includes adjustable tool rests, safety wheel guards that permit the use of wire brush wheels, a toggle switch and a 3-wire rubber covered cord with connection and ground fittings. The unit is mounted on rubber feet and is equipped with a coarse and a fine wheel. Weight is 45 pounds.

If you write maker identify as IEN - 8777

MARKING . . Reciprocating tool for metals, plastics, ceramics, glass

Source: S. C. & L. MACHINE CO.
1119-23 Fourth Ave., Rockford, Ill.

Handles like a pencil

Recipro-Tool trade names new design of the solenoid operated marking tool, previously described IEN-7595-47. The tool is held in the operator's hand as shown in the illustration. He presses a finger button to start the action which delivers a 5½-lb. blow at 7,200 strokes per minute on 60-cycle input. Maximum stroke length is ¼ inch. This can be adjusted down to any smaller amount by turning the screw at the rear of the housing.

Overall length is about 5 inches. Weight is 14 ounces. Normal operation is on 110-volt 60-cycle ac. A chuck at the nose end of the spindle takes interchangeable bits for marking, engraving, cutting, filing.

Identify as IEN - 8778

Cookie dough is pumped from a mixing trough to the feed hopper above a cookie machine with a stainless steel version of the Alemite Versatal pneumatic pump. This equipment was originally developed to transfer heavy grease and insulating materials from their original containers. In addition to pumping dough, the same type of pump delivers sugar coating on sweet rolls and pumps a cream icing on chocolate cakes in continuous flow on a production line. It also is handling trough grease by pumping and spraying either hot or cold.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8779

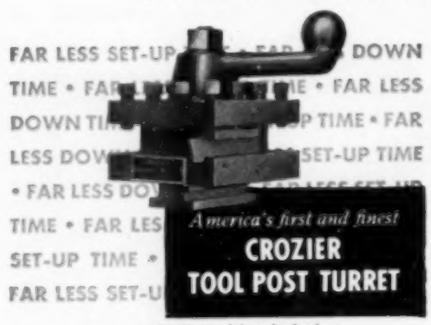
If you write maker identify as IEN - 8780

Tri-Lok open steel flooring is fabricated of cross-bars (see B above) twisted in opposite directions at each bearing bar (note arrows on A¹, A²), and pressed into position by a 1600-ton press! Truss action forms a rigid framework ideal for stairs, walkways, decks, loading platforms, and engine room installations.

Maximum openings allow ample light and ventilation, but no object over one-half inch square can slip through. Rectangular or U-type construction. Variety of metals—stainless steel, aluminum alloy, etc. Riveted and Tri-Forge welded flooring available. Write for Bulletin PN-1103.

DRAVO
CORPORATION
National Distributor for The TRI-LOK Company
Dravo Building, Pittsburgh 22, Pa.
Sales Representatives in Principal Cities

If you write maker identify as IEN - 8781



now with 12 position indexing

12 position indexing now makes possible the alignment with work at any thirty degree increment.

This is only one of the outstanding features developed by the first and largest manufacturer of turrets for small lathes. Other features include built-in cut-off tool and holder and positive rapid indexing. All wearing parts are hardened and precision fit. They are available in three sizes.

Switch to Crozier Tool Post Turrets today. Save as much as 75% set-up and down time in lathe operations. In Crozier, you have America's precision-built tool post turret. Write for catalog.

CROZIER MACHINE TOOL CO. Dept. IEN-8
Hawthorne, California

If you write maker identify as IEN - 8782

For 30 years, we have been working with all kinds of metals . . . making all sizes and types of crankshafts, eccentric shafts, and drive shafts to precise and exacting specifications. Our manufacturing skill, combined with our experience, produces shafts of absolute fit—eliminates reworks and rejects.

If you use shafts in your product, regardless of your requirements, you can look to us as a dependable source of supply. Send us your specifications today. We will contact you promptly.

YORK *Electric & Machine Co., Inc.*
YORK, PA.

Makers of BILTWELL•FOREMAN *Axle Shafts for the automotive industry—with world wide distribution.*

"WHERE PRIDE OF PRODUCT PREVAILS"

If you write maker identify as IEN - 8783

Need a RIGHT ANGLE drive for limited space?

Perhaps compact, powerful ANGLgear will solve your power transmission problem. ANGLgears are so compact they fit into the palm of your hand. They are so adaptable that two models meet most industrial requirements. Model R-300 is rated at 1/3 hp at 1800 rpm—Model R-320 at 1 hp. Both models are lubricated for life, have hardened gears and antifriction bearings. Write for literature, and the name and address of your nearest ANGLgear distributor.

ANGLgears are sold exclusively through industrial distributors.

AIRBORNE
ACCESSORIES CORPORATION
1414 Chestnut Avenue, Hillside 5, New Jersey

C.A.A.C.

If you write maker identify as IEN - 8784

Extra protection

against short-time overloads is built into

Uptegraff

DISTRIBUTION Transformers

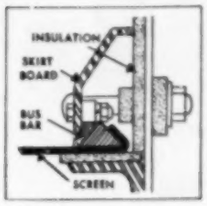
Meeting ASA and NEMA standards, Uptegraff Distribution Transformers are made in sizes and ratings from 3 to 500 KVA, including oil, askarel and air-cooled types, for indoor or outdoor service. Write for description and prices. Prompt delivery.

R. E. UPTEGRAFF MANUFACTURING CO.
THOMAS STREET . . . . SCOTTDALE, PENNSYLVANIA
Makers of Power • Distribution • Instrument • Specialty Transformers

If you write maker identify as IEN - 8786

SCREENING . . Heater attachment assists in processing moist material

Source: F. R. HANNON & SONS
1620 Wayneesburg Road S. E., Canton 7, Ohio



Applies on your screens

The company announces availability of a new quick-change attachment for use with its electric screen heater previously described IEN-8589-51. The attachment can be employed on any make of screen with new or previously installed electric heaters which act to provide efficient action on wet sand, coal, lime, ore, chemicals that tend to "blind" the screen openings.

The equipment employs a stepdown transformer to provide low voltage heating current to bring the complete screening area up to a desired temperature. No special preparation is required and an installation can be made in a few hours to heat the screen just enough to permit the materials to pass through freely.

If you write maker identify as IEN - 8787

PLASTIC . . Phenolic material for molding, will not corrode silver

Source: DUREZ PLASTICS & CHEMICALS INC.
6 Walck Road, North Tonawanda, N. Y.

Particularly for electric fittings

Durez 15528 Black is a new phenolic molding material that is characterized by its freedom from tendency to corrode silver contacts when it is employed as the body in manufacture of electrical fittings. It is a general purpose material with specific gravity of 1.39 and mold shrinkage of 0.006 inch per inch. It is available in soft plasticity for free flow. It will preform in automatic machines and can be preheated.

If you write maker identify as IEN - 8788

PROTECTING . . Transparent holder for prints, orders, records, reports

Source: COOK'S INC.
778-82 Wright Ave., Camden 1, N. J.

Transparent plastic is employed on the two faces of this new sheet and card holder. Three types of construction are available to include heat sealed edges, stitched bound edges or cemented tape edges. Shape and size of the holder can be specified. Sheets or cards can be slid into and out of position without binding.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8789

Dependable
MEASURING & CHECKING EQUIPMENT

and Now
HAND WHEELS, KNOBS, HANDLES
Cadmium Plated READY TO DELIVER
Non-rusting — good looking

Send for Complete Catalog

We also build jigs, fixtures, special tools and machinery. Send us your blueprints.

MACHINE PRODUCTS CORPORATION
6761 E. McNichols Road • Detroit 13, Mich.

If you write maker identify as IEN - 8790

IMPROVE METAL PLATING

...CUT COSTS with SYLPHON

Temperature Regulator No. 999

• Fully automatic Sylphon Regulator No. 999 helps control plating operations better. Keeps temperature accurate . . . constant. Prevents over-heating, helps cut down rough plating and buffing time . . . reduces breakdown of solutions. No. 999 has stainless steel frame . . . large size 2-ply Sylphon bellows for added power . . . is self-operating. Available with dial indicating thermometer. Ideal for all industrial processes requiring accurate temperature control. Write for Catalog PN-A.

FULTON SYLPHON DIVISION
ROBERTSHAW-FULTON CONTROLS CO. • • KNOXVILLE 4, TENN.
Temperature Controls • Bellows Devices • Bellows Assemblies
Canadian Representatives, Darling Brothers, Montreal

If you write maker identify as IEN - 8791

CUTTING COSTS WITH ALLMUL

"B&W ALLMUL Firebrick lasts 6 times longer"

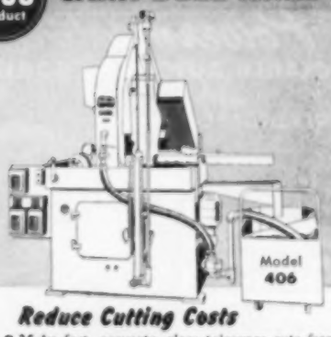
Semi-mullite brick bungs in the hottest part of a butt welding furnace spalled badly after six weeks. Allmul bungs in the same location were still going strong after 39 weeks—in better condition than the semi-mullite bungs after six weeks. Yet Allmul cost little more than the original semi-mullite refractory. As a result, Allmul is now used in uptake arches, uptake side walls and crossovers.

Bulletin R-29 gives all the facts on B&W Allmul. Write for your copy.

THE BABCOCK & WILCOX CO.
Refractories Division
GENERAL OFFICES: 161 EAST 42nd ST., NEW YORK 17, N. Y.
WORKS: AUGUSTA, GA.

If you write maker identify as IEN - 8792

an ACCO product **CAMPBELL** ABRASIVE CUTTERS



Reduce Cutting Costs

• Make fast, accurate, close tolerance cuts from hard or soft, round, hex, square, or shaped stock. Work and wheel thoroughly cooled. Wheel entirely enclosed in steel safety guard. Many models. Many automatic features.

Write for *"Principles of Abrasive Cutting."*

ACCO
CAMPBELL MACHINE DIVISION
AMERICAN CHAIN & CABLE
941 Connecticut Ave., Bridgeport, Conn.

CAMPBELL Abrasive Cutters

If you write maker identify as IEN - 8793

BIG HELP

...in improving the efficiency of machine tools, presses and other equipment that can't be replaced.

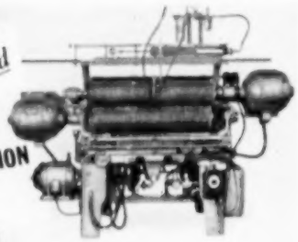
GEROTOR

HYDRAULIC PUMPS

GEROTOR MAY CORP., BALTO. 3, MD.

If you write maker identify as IEN - 8794

Engineered TO YOUR PRODUCTION NEEDS



CLAIR SURFACE FINISHING MACHINES

For Surface Finishing: screw drivers, chisels, pliers, saws, wrenches, compacts, cigarette cases, fine silver, surgical instruments, fan blades, flat iron sole plates, many other similar items

Working closely with your engineers we will develop a custom machine designed for maximum surface finishing efficiency on your particular application. Totally enclosed, abrasion-proof hydraulic circuits assure uninterrupted production and vastly reduced maintenance costs.

CLAIR

MANUFACTURING CO., INC.

Specialized Machine Equipment For Glazing and Polishing Operations

OLEAN, N. Y.

If you write maker identify as IEN - 8795

Powermaster®

PACKAGED AUTOMATIC BOILERS with VORIFLOW® Combustion

Save Fuel and Man Hours!

For light oil, heavy oil, gas and gas/oil firing. Steam generating units from 15 to 500 HP. 15 to 250 p.s.i. Hot water boiler units 30 p.s.i. Reduce operating costs as much as 40% — save man-hours — get clean, dependable heat and hot water. A.S.M.E. Code construction.

Write For Bulletin

ORR & SEMBOWER, INC.

860 Morgantown Rd., Reading, Pa.

BUILDERS OF DEPENDABLE BOILERS SINCE 1885

For Your Special Information

ALL MAKERS ARE LISTED IEN S-24

It has been necessary to send out a letter to selected Thomas' Register advertisers to ask if they are willing to sell their current copies. This has been done so orders can be filled for other manufacturers who want copies and cannot get them of the completely sold-out edition. The condition is unfortunate of course. At the same time it indicates advisability to place orders now for the 1953 edition when they can certainly be accepted and filled. No promise can be made a little later.

Note.. Please do not confuse this regular edition of the complete Thomas' Register with the Junior edition described on page one of this issue. The latter is a compilation of selected products and manufacturer names and addresses. It is offered without charge at this time each year upon request as long as the limited supply holds out.

INDUSTRIAL ENGINEERING CONFERENCE IEN S-25

Michigan State College announces its Fourth Annual Industrial Engineering Conference for September 8 to 12 in East Lansing, Michigan. The meetings are designed to present a picture of the subject in its many phases for company executives and management trainees. It provides opportunity for actual instruction and practice. Contact Professor James M. Apple, Mechanical Engineering Department, Michigan State College, East Lansing, Michigan.

EXPOSITION IEN S-26

All the floor space has been sold for the Seventh National Chemical Exposition to be held in the Chicago Coliseum September 9 to 13. Central unit of the exhibit will be a new working model of an atomic pile in which non-radioactive material will be irradiated. About one-half the 250 exhibitors will be equipment manufacturers. The others will be apparatus supply houses, chemical manufacturers and engineering organizations.

IF YOU ARE AVERAGE IEN S-27

The average American, it is estimated, is yielding 77 cents per hour, 40 hours a week, 52 weeks a year, to the tax collector, and this does not count the taxes passed on which do not show in his return.

U. S. SAVINGS BONDS IEN S-28

George C. Brainard, President, Addressograph-Multigraph Corporation says, "The purchase of United States Savings Bonds is an expression of faith in the intrinsic soundness of our country, and indicates foresightedness with respect to one's own future needs."

If you write maker identify as IEN - 8796

FAWICK ROTORSEALS

Performance Proved in

THOUSANDS OF INSTALLATIONS

Machine problems requiring transmission of air or liquids from stationary to rotating machine members are best solved with FAWICK ROTORSEALS.

Precision ROTORSEALS are available in single and multiple passage units, insuring dependable sealing of air, liquids or gases under pressure. They are equally effective in vacuum applications and may be operated continuously or intermittently in either direction.

FAWICK AIRFLEX CO., INC.

9919 CLINTON ROAD • CLEVELAND 11, OHIO

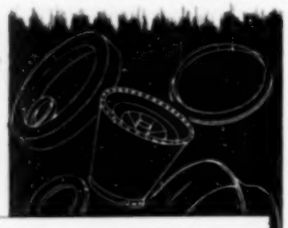
For complete information on a FAWICK ROTORSEAL to suit your specific application, write to the Home Office, Cleveland, Ohio.

FAWICK Airflex

INDUSTRIAL CLUTCHES AND BRAKES

If you write maker identify as IEN - 8797

"GO AMERICAN" FOR CIRCULAR WELDED PRODUCTS



Can your product be redesigned to take advantage of the tremendous savings offered by welding?

Our engineers and metallurgists will gladly give you the benefit of their experience. We invite your inquiry, it will receive prompt attention without obligation.

SEND FOR YOUR COPY OF OUR 20 PAGE ILLUSTRATED CATALOG

THE AMERICAN WELDING & MANUFACTURING CO.

WARREN, OHIO

If you write maker identify as IEN - 8798

From shop hoist to truck hoist... *in seconds!*

NEW... BOOM EXTENSION ADDS 25% LOAD TRAVEL

Unit Hoist showing boom extension... truck well mounted.

UNIT "*Utility*" HOIST gives greater load travel plus three lifting points with capacities ranging from 1000 to 2000 lbs.

Hydraulically operated for shop, truck or machine, the Unit Hoist makes quick work of special handling operations. Setting pipe and water hydrants, working in manholes, reaching over obstructions are easy with the new 12" Boom Extension and optional Sheave Attachment.

REDUCE material handling time. Unit gives you perfect load control plus portability. Portable floor frame permits moving to any job in the shop. Hoist when transferred to any truck equipped with well swings 360° freely and locks in traveling position. *Write for Hoist Bulletin U-2.*

PIN LOCKS HOIST IN SAFE WORKING POSITION

THE BEST WHEN HANDLING:

Drums, Mixers, Boxes & Crates, Transmissions, Pipe, Tires, Farm Machinery, Fixtures, Hydrants

Floor Frame Model

UNIT

Manufacturers of hydraulic cylinders for original equipment

UNIT MANUFACTURING CO.

1229 HARMON PLACE • MINNEAPOLIS 3, MINN.

If you write maker identify as IEN - 8799

WITHSTANDS +700°F.

SILICONE FIBERGLASS DUCTING

FLEXIBLE AT −125°F., ArcoSil Silicone Ducting withstands varying temperature extremes. Offers greater possibilities of design in applications where flexibility and serviceability are required. ArcoSil #2184 provides greatly improved abrasion resistance, exceptional leak-proof qualities and better design features making possible more complex shapes.

ARROWHEAD RUBBER COMPANY

DOWNEY, CALIFORNIA (Los Angeles County)

WRITE FOR ARCOSIL BULLETIN NO. S-11, *Dept. A-6.*

If you write maker identify as IEN - 8800

TIGHT!
. . . but how tight?

Tight enough to shear off the nut . . . wasting time and material? Or is it exactly right, precision tight?

There's never *any* question, with Apco Mossberg Torque Wrenches . . . precise, pre-determined measurement of final tension on nuts and bolts is yours at a glance. Dial readings are instantaneous and unerringly accurate . . . there are no springs or intricate parts to get out of kilter. Apco torque wrenches are lighter, easier to handle than any other wrench of comparable size and style . . . narrow heads make work easy in awkward, hard-to-get-at places. Best of all, there's an Apco Torque Wrench for every job in the shop . . . a complete range of sizes, from 280 inch grams to 2000 ft. pounds.

Write for complete information on Apco Mossberg Torque Tools today . . . they're so *easy* to use, so *hard* to do without.

APCO MOSSBERG CO.
Attleboro, Mass., U.S.A.

If you write maker identify as IEN - 8801

New OHMITE
POWR-RIB RESISTORS

Here is a new resistor which provides *dependable* operation for high-current applications.

Ohmite Powr-Rib edge-wound type resistors are wound with a heavy ribbon of resistance alloy on a ceramic core. This ribbon is rated at 375°C (707°F) temperature rise. All other metal parts are specially plated to prevent oxidation at high operating temperatures, and to insure good electrical contact. The ceramic core is divided into five sections to provide flexibility and resistance to shock. Available in full-rated capacities from 18.0 to 108 amperes; in resistance values from 0.100 to 2.85 ohms.

Write for BULLETIN No. 141
OHMITE MANUFACTURING CO.
4814 Flournoy St.
Chicago 44, Ill.

Be Right with
OHMITE®

RHEOSTATS • RESISTORS • TAP SWITCHES

If you write maker identify as IEN - 8803

CONNECTORS . . Electric fittings three wire polarized locking design

Source: PASS & SEYMOUR INC.
552 Solvay Station, Syracuse 9, N. Y.

Enter and turn to lock

Turnlok trade names a new line of receptacles, caps and connectors on which the company has started production following its purchase some years ago of the previous Harvey Hubbell Twist-Lock line. Two of the approximate 20 items that will make up the line are shown in the illustration. It is expected that all will be in production before the end of this year.

P&S-7082 is a three-wire polarized cord-grip connector body. Its construction includes a Bakelite housing with slots to take cap blades, a steel armored section and zinc plated cord grip, contacts including springs at the base away from the arcing points, tapered wire ways and a ¼ to 7/16-in. cord hole. This unit rates 15 amp. at 110 volts.

P&S-7310, to the right in the illustration, is a three-wire receptacle with Bakelite body enclosing the contacts in separate chambers. Pressure type terminals are designed for either side or back wiring. Rating, as shown by marking in the center of the housing face, is 20 amp. on 110 volts.

If you write maker identify as IEN - 8804

TUBE . . Polyethylene plastic, inert, tasteless, odorless, non-toxic

Source: BEL-ART PRODUCTS
2207-11 Central Ave., Union City, N. J.

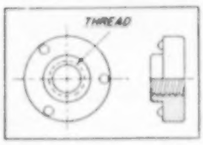
Any length as specified

Sizes range from ¼ to ½ in. in inside diameter with wall thickness at 1/16 in. in the company's new Kemflex polyethylene tube. The material is not subject to attack by most strong acids or alkalis or by known solvents in contact with it at ordinary room temperatures. It is flexible and can be formed.

If you write maker identify as IEN - 8805

FASTENING . . Assembles steel thread by spot welding to thin sheet metal

Source: PENN ENGINEERING & MFG. CO.
Box 311-A, Doylestown, Pa.



Made of steel

Weld fastener, self-locating design, designates a new threaded fastening for application in a drilled or punched hole in a thin steel sheet or in one of any thickness where it is more desirable to have the threads in the fastening than in the sheet itself. Permanent assembly is by application of pressure and current between a pair of electrodes to weld the three projecting lugs to the sheet.

Sizes range from No. 256 to ¼ in.-20. Overall diameter is 7/16 to about ½ inch. Hub diameter is 0.171 to 0.315 inch. Intended application is in sheets measuring 0.03 in. or more.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8806

No Packing! No Stalling!

Rotary drill masonry with carbide tipped
Cyclo-Core or *Cyclo-twist*

REMOVABLE CYCLO-CENTER

Multiple spiral flutes, which run the full length of the shell, positively remove dust as it is pulverized. Removable Cyclo-Center for locating and starting holes. Recommended for hole sizes ¼" to 6" diameter in hard concrete, using electric rotary drill and applying pressure. Extra shank lengths available—all diameters.

Twin spiral flutes remove dust speedily and surely. Carbide tip same diameter as body, no carbide hang-over—maximum strength. Recommended for hole sizes 3/16" to 1½" in soft or medium masonry material, using an electric rotary drill, drill press or hand brace. Extra length bits available up to 36" long.

By the makers of Thunder-twist and Thunder-Core Hammer Bits. *Send for new Masonry Drill Bit Guide—Helps you choose the RIGHT bit for EACH job!*

New England Carbide TOOL CO., INC.
60 BROOKLINE STREET, CAMBRIDGE 39, MASS.

If you write maker identify as IEN - 8807

COMPLETE EASE OF OPERATION
in a controller

Any control action easily reproduced.

The Bristol Series 500 Air-Operated Controller permits you to do it by *merely setting a dial!*

This saves hours of shutdown.

Easiest to service, too. Simple design, fewest parts, close-tolerance manufacturing—make the instrument interchangeable throughout. One simple adjustment puts it back in exact calibration after complete disassembly and reassembly.

Five types for controlling temperature, flow, pressure, liquid level, humidity, pH. Write for Bulletin 120. THE BRISTOL COMPANY, 107 Bristol Road, Waterbury 20, Conn.

BRISTOL
AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

If you write maker identify as IEN - 8808

Choose Norton Wheels, Cylinders, Segments

Choose from a wide variety of Norton ALUNDUM* and Norton CRYSTOLON* abrasives, each available in several types. And Norton bonds for surface grinding include vitrified, silicate, and resinoid with the special "BE" vitrified bond developed expressly for Norton ALUNDUM wheels.

See your Norton Distributor or Abrasive Engineer for the *right* abrasive, *right* bond, *right* structure to use on your surface grinding jobs. And get your copy of the brand new Booklet 1632 — an 88-page book on "The ABC of Surface Grinding."

NORTON COMPANY
Worcester 6, Mass.
Distributors in all principal cities

*Trade-Marks Reg. U.S. Pat. Off. and Foreign Countries

NORTON
ABRASIVES
Making better products to make other products better

If you write maker identify as IEN - 8809

1536A Series—Double Ball Race Swivel Caster equipped with Roller Bearing Vulcanized-on Soft Rubber Tread Wheels.

SELECT any of the more than 25 different types of Bond industrial casters for your materials handling jobs and *know* that these efficient, sturdy and economical casters will roll-up greater production profits every time.

For the complete facts on all Bond Truck Casters write for your copy of Catalog K-38.

Bond® built-for-the-job **CASTERS**

insure
- **Increased plant efficiency**
- **Faster materials handling**
- **Lower production costs**

1A Series—Stationary Caster equipped with Plain Bearing Semi-Steel Wheel.

BOND FOUNDRY & MACHINE CO.
Manheim, Penna.

If you write maker identify as IEN - 8810

NOW! APPLY GLUE
Easier...Faster
direct from original containers!
with Alemite VERSATAL PUMPS

• Air-operated Versatal Pumps deliver glues and adhesives directly from bulk storage or barrels to your point of application.
• End troublesome handling and transferring of materials. Save time and work.
• Hydraulic pressures deliver materials through as much as 1,000 feet of hose or pipe, serve up to six outlets.

FREE! A book of ideas on how Alemite Versatal Equipment can help solve your material handling problems. Address your request to Alemite, Dept. 8-82, 1930 Diversey Parkway, Chicago 14, Illinois.

ALEMITE Versatal

If you write maker identify as IEN - 8811

For Faster Assemblies use a "YANKEE" Quick-Return Spiral Screw Driver

Quick-Return Style Nos. 130A, 131A, 135
Standard Style (without Quick Return Spring) Nos. 30A, 31A, 35

A push on the handle and the screw is off to a spinning start! Up with the arm and the driver is ready for the next push. Constant spring pressure keeps the bit in the screw slot. This quick-return feature of the "Yankee" Spiral Screw Driver helps one hand do the work of two, easier and faster.

Ask your Industrial Supply Distributor about these and other "Yankee" Tools that put an extra push into every job.

Write today for the "Yankee" Tool Book

"YANKEE" TOOLS NOW PART OF STANLEY THE TOOL BOX OF THE WORLD

NORTH BROS. MFG. CO.
Philadelphia 33, Pa.

If you write maker identify as IEN - 8812

FOR SPEEDY INSTALLATION... WITH MINIMUM INTERRUPTION OF WORK.....

Count On CLOW (Threaded)* CAST IRON PIPE

WHEN YOU REPLACE OR EXPAND Leading engineering firms specify Clow Threaded Cast Iron Pipe for downspouts, waste and vent lines because of its corrosion-proof qualities and lifetime service.

Clow Threaded Cast Iron Pipe can be cut and threaded on the job with ordinary tools of the piping trade. Available with plain or threaded ends in 3, 4, 5, 6, 8 and 10" sizes in 18' lengths. Also furnished with integral calking hub on one end (other end plain) in 4, 6 and 8" sizes.

Write for Form 4-26-50 to: JAMES B. CLOW & SONS, 201-299 N. Talman Ave., Chicago 80, Illinois.

*Has the same outside diameter as steel or G.W.I. pipe

JAMES B. CLOW & SONS
Wholesale Distributors of Pipe, Valves and Fittings for Industrial Use

If you write maker identify as IEN - 8813

COMMUNICATING . . Talk-listen units plug into 110 volt lighting circuits

Source: VOCALINE CO.
527 Bristol Bldg., Old Saybrook, Conn.

$97.50 per pair

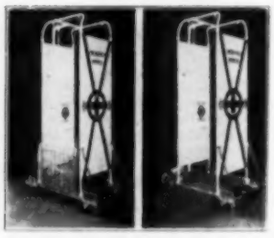
Model CC-258 is new design in the company's electronic communicating equipment, previously described IEN-3263-50. An installed 110-volt ac. or dc. lighting circuit can serve as the means for transmission to carry two way conversation between stations. The new design has been developed to operate satisfactorily on circuits normally employed in office and plant departments.

A silencing circuit maintains the unit in static free condition while it is standing by until it is actuated by a signal from another unit on the same circuit. Dimensions are about 7 by 5 by 5 inches. Assembly weight is 3½ pounds. Maximum range between a pair of stations is about a mile. Adjustments for volume and for operation are beneath the knobs on the housing front.

If you write maker identify as IEN - 8814

FIRST AID . . Emergency shower to which a worker can turn quickly

Source: LOGAN EMERGENCY SHOWERS INC.
P. O. Box 111-A, Glendale, Calif.



Wheels and floor locks

Portable assembly has been added to the company's emergency shower, previously described IEN-1241-52. It is designed to roll to a point of use, possibly temporary, where stationary emergency equipment is not available.

A worker can quickly extinguish burning clothes or neutralize acids with which he may have come in contact. Multiple heads instantly wet and wash all parts of the body and clothing. The action starts as soon as the worker runs in between the two side panels and swings the water opening gate mounted vertically inside. Connections are provided for a shop water line.

Identify as IEN - 8815

We wonder what passes through the driver's mind as he operates a bulldozer in a scrap yard in Denver, Colo., to crush automobile bodies and frames against a concrete wall in the process of preparing this automotive scrap for return to the steel mills. It must be real pleasurable, at least for a while, to watch the bodies go flat as he rides into them. The news item says he can crush 75 car bodies a day and help a crane to feed a baler at 115 ton each 18 hours.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8816

Put THIS on Your Shelf!

RBC's PITCHLIGN Trade Mark ROLLER BEARING CATALOG

Get all the detailed information on RBC's new PITCHLIGN bearings! See for yourself how they incorporate a series of important features never before achieved in bearings with small diameter rollers. Have the full story at your fingertips. Write for Bulletin SF 1066.

WRITE TODAY!

RBC
ROLLER BEARING COMPANY OF AMERICA
TRENTON, N. J.

If you write maker identify as IEN - 8817

Darnell Casters

Always SWIVEL and ROLL

DARNELL CORPORATION, LTD.
DOWNEY, (Los Angeles County) CALIF.

60 Walker Street, New York 13, N.Y.
36 North Clinton, Chicago 6, Illinois

If you write maker identify as IEN - 8818

for platform trucks and trailers

CESCO Automatic COUPLERS

COUNTER BALANCED

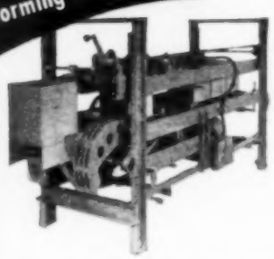
THEY COUPLE AT ANY TRUCK ANGLE because the counterbalanced bail is always in coupling position; is easily disengaged by foot-operated latch. The spring-loaded jaw and counterbalanced bail provide complete flexibility for single trucks or truck trains.

Cesco Automatic Couplers may be welded or bolted to truck frames; are interchangeable with other makes. Write for information and prices.

Colson Equipment & Supply Company
1317 WILLOW STREET • LOS ANGELES, CALIFORNIA

If you write maker identify as IEN - 8819

A shorter, narrower, simpler, and better performing case sealer



CAN BE MADE PORTABLE IF DESIRED

THE NEW A-B-C Junior CASE SEALER

The A-B-C Junior Case Sealer automatically seals corrugated shipping containers in only a fraction of the floor space ordinarily required. Operation is fast—trouble free—economical. A completely new flight chain construction virtually eliminates carton jamming . . . Three semi-automatic models are available to fit most case sizes. Write today for details and floor plans.

A-B-C PACKAGING MACHINE CORP.
QUINCY, ILLINOIS

If you write maker identify as IEN - 8820

Special cold headed products

. . . nails • rivets • screws . . . made to order

. . . and to your specifications in any metal. Large raw material inventory for your convenience. Send drawing—advise quantity. *Free catalog on request.*

JOHN HASSALL INC.

132 Clay Street Brooklyn 22, New York

If you write maker identify as IEN - 8821

SPEED UP

Pangborn

Hydro-Finish is versatile! Use it to speed up cleaning, polishing and finishing of molds and dies as well as production line work.

Hydro-Finish saves you time, labor and money. Scale and discoloration are removed in *minutes* instead of hours. Cleaned surfaces are virtually free of directional grinding lines. Costly hand work is greatly reduced. No danger of excessive metal removal because tolerances are held to .0001". Fine mesh abrasives suspended in water do a precision job.

Find out how Pangborn Hydro-Finish improves product quality, increases tool and die life! For full details, write today for Bulletin 1400A to: PANGBORN CORPORATION, 2300 Pangborn Blvd., Hagerstown, Md.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment.

Pangborn

BLAST CLEANS CHEAPER

with the right equipment for every job

If you write maker identify as IEN - 8823

WEIGHING . . Over and under scale with ratings to 5, 20 and 50 pounds

Source: TOLEDO SCALE CO.
Telegraph Road, Toledo 12, Ohio

Ask for Bulletin 1416

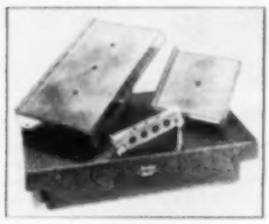
The pointer in this new Series-3000 Speedweigh over-and-under scale is made of aluminum tubing. It operates to the right or left to read over or under 1 oz. of scale setting. The dial and pointer are enclosed by a transparent acrylic plastic dome. It admits light from both sides and the top and permits reading the double faced chart from the front or back. Maximum pointer travel is 1 in. on each side of zero. Three sizes are known as Models 3011, 3021 and 3031. A beam on the side of the housing reads in 1 oz. major divisions to 1 lb. and carries a poise. A matched set of loose weights, equal to the capacity of the scale, is available with each model.

Model 3021 as shown in the illustration rates 20 lb., requires a table space measuring 21⅝ by 11¼ inches. The mechanism includes a dash pot to stop unnecessary movement for quick reading and to absorb shock that protects the scale. The double check link design is equipped with knife-edge pivots and bearings that minimize friction at the connection points. The beam is made of stainless steel.

If you write maker identify as IEN - 8824

LAYOUT . . Tool steel sine plates, 5 and 10 in. sizes for precision work

Source: DOALL CO.
252-56 N. Laurel Ave., Des Plaines, Ill.



Highly precise

Tool steel is hardened, drawn and stabilized for use in two new sine plates the company has added to its line of layout and gaging equipment. One is a 5-in. unit, the other a 10-in. size. Top dimensions are 6 by 6 in. and 7 by 12 in. respectively.

The plates ride on two short cylinders spaced 5¼ in. between centers rather than on cylinders extending across the plate in one piece. The arrangement minimizes the possibility of error in measurement.

Threaded holes in one side and end take clamping fixtures and also secure two side rails provided with each plate. Holes in the plate face can be used to locate dowels or for hold-down fixtures. The lapped working surface is held flat within 0.00005 in. on the 5-in. plate, 0.00007.5 in. on the 10-in. unit.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8825

For FASTER HEATING & MELTING
Use *Mutual* PROPANE* FURNACES & TORCHES

PLUMBERS & HEATING MEN—DON'T MISS THIS: Mutual's field proven Propane Furnace melts 60 pounds of lead in 12 minutes. Mutual Propane Furnaces and Torches are hotter, faster, safer. You get the job done better and quicker with fewer man hours. No pumping, priming or waiting. Won't blow out. No smoke. Light weight. Ideal for heavy duty preheating and close melting. Blow torch and soldering iron can be attached to Propane tank hose.

Mutual High Speed Torches available in broad flame or pointed flame. Reduce excessive labor costs. Use Mutual Torches and Furnaces for the most efficient, cleanest, portable fuel known.

Send for free Mutual catalog and price list.

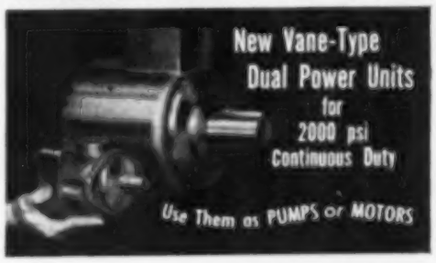
*Liquid Petroleum Gas

ORDER NOW
Qualified Jobbers Wanted

Mutual LIQUID GAS EQUIPMENT CO., Inc.
3600 WEST IMPERIAL HIGHWAY, INGLEWOOD, CALIF.

If you write maker identify as IEN - 8826

BIGGEST NEWS FOR '52...



DENISON'S new vane-type power units are ready for use as either pumps or motors without alterations of any kind. They're rugged and compact; built for continuous duty at 2000 psi. Quickly convertible for either clockwise or counter-clockwise operation. Eleven models and sizes offer pumping capacities from 2½ to 70 gpm—or torque ratings for fluid motor use from 12 to 257 pound-inches per 100 psi. Denison Pump/Motors are hydraulically balanced throughout. Designed for widest possible choice of porting, directional and mounting arrangements. Get full details: write today for bulletin P-5.

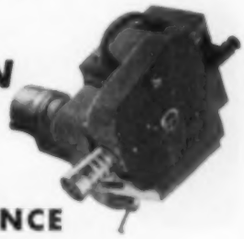
DENISON HydrOil

The DENISON Engineering Company
1150 Dublin Rd.
Columbus 16, Ohio

PUMP MOTOR

If you write maker identify as IEN - 8827

THIS CAMERA HELPED *BALDWIN* IMPROVE ENGINE PERFORMANCE



When you can see the cause of trouble in slow-motion movies, the solution is often obvious.

Baldwin-Lima-Hamilton engineers used this technique in improving valve performance in a diesel locomotive engine. To see what happened to the valves in action, they used a Kodak High Speed Camera.

This versatile camera enables you to take up to 3200 pictures a second. Motion is slowed as much as 200 times by projecting the 16mm film at normal speed. Visual analysis is quick and easy, and the films can be shown over and over again for study as often as you wish.

The Kodak High Speed Camera may be the answer to your design, production, and product performance problems. To see how it has worked for others, send for your copy of the booklet, "Magnifying Time." Write to Eastman Kodak Company, Industrial Photographic Division, Rochester 4, N. Y.

the Kodak *HIGH SPEED* Camera

Kodak

If you write maker identify as IEN - 8829

Money Saving
BALL BEARING
DEVELOPMENT

Improved machine design, performance and longer service life at low cost is made possible by this unique Fafnir Ball Bearing Unit incorporating the famous Fafnir Wide Inner Ring Ball Bearing with self-locking collar. It eliminates costly machining where bearings are involved. Makes maintenance easier.

The FAFNIR FLANGETTE — for slow speed applications
1 is completely-packaged ball bearing
2 easy to install — self aligning at assembly
3 lightweight, compact, sturdy
4 bearing protected by Mechanoseals (keep grease in, contaminants out)

Get complete details. The Fafnir Bearing Company, New Britain, Conn.

FAFNIR
BALL BEARINGS
MOST COMPLETE LINE IN AMERICA

If you write maker identify as IEN - 8830

SURE CURE FOR
METAL SHORTAGES

Switch to
PLASTICS..
The Quality
Substitute
for...
NAMEPLATES

Here is a practical way to avoid delays in production due to metal shortages. Substitute plastics for items like nameplates which can be fabricated advantageously to your exact specifications.

Sillcocks-Miller specialists offer the experience and facilities to develop and produce quality nameplates and other parts for which plastics are a practical substitute material.

It will pay you to write for details or submit specifications for quotation.

The SILLCOCKS-MILLER Company

Pioneers in Plastic Fabrication since 1910

22 W. Parker Ave., Maplewood N. J.

If you write maker identify as IEN - 8831

SPRAY NOZZLES

...FOR EVERY NEED!

For lower cost and more efficient spraying use Spraying Systems Spray Nozzles. Complete type and size selection for every need. Write for Catalog.

CLIP AND MAIL

SPRAYING SYSTEMS CO.
3208 Randolph Street • Bellwood, Illinois

☐ Send me Catalog No. 22 ☐ Send me Catalog No. 23

Name
Company Name
Address
City State

If you write maker identify as IEN - 8832

CLAMP . . Five basic styles
for use in sheet metal fabrication

Source: MONOGRAM MFG. CO.
2202-6 Colorado St., Santa Monica, Calif.

Tools compress spring

Four new designs for insertion in drilled or perforated holes in sheet metal and one to clamp at the edge of sheets to be welded together make up a new line of clamps available with applying tools for material thicknesses from 1/8 to 1½ inches. Those that apply in holes range in hole size from 0.096 to 0.350 inch.

The designs include one in which the holding spring is enclosed, three in which it is exposed and one employing a wing nut in place of the spring to apply the gripping force. Three of the spring operated units use the tools shown in the illustration. The fourth spring design is inserted into a hole by thumb and fingers. It is particularly for bench work.

If you write maker identify as IEN - 8833

MILLING . . Carbide tipped cutter,
1/2, 3/4 in. widths, 3 to 8 in. diam.

Source: KRAUS DESIGN INC.
33 Flint St., Rochester 8, N. Y.

One body takes several sets of blades

Carbide tipped blades mount in quickly removable position on steps and against shoulders machined in the steel body of this new Millet cutter. The blades are held down by capscrews. They center against locating screws at the backing shoulders in the body. Changes in rake and shear angle for changing work requirements are by changing the complete blades.

Identify as IEN - 8834

Non-ferrous tube in sizes from 3/4 to 8 in. can be produced by roll forming and electric welding on new Yoder equipment. Metal thickness range is from 0.025 to 0.140 inch. Welding speed is 50 to 90 feet per minute. The company is now taking orders for the equipment to handle alloys made of aluminum, copper, brass, nickel, Monel Metal, Inconel and stainless steel.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8835

FOR HEAVY DUTY CUTTING
IT'S THE BAKER TRU-EDGE SHEAR
CHECK THESE FEATURES

- BURR FREE EDGE
  no finishing operation necessary
- EASY TO OPERATE
  no starting hole necessary
- 48" THROAT
- DOES BEADING AND FORMING
- CUTS 10 TO 36 FEET PER MINUTE
- ONLY 5 MOVING PARTS
- CAPACITY 6 GAUGE IN MILD STEEL
  7 GAUGE IN STAINLESS STEEL
- DELIVERY FROM STOCK
- COST? . . . $1960.00 f.o.b. TOLEDO

In actual cases on record, the Baker Tru-Edge Contour Shear cuts operating time to less than 1/10 of the time required on other machines. The Tru-Edge Contour Shear is made by Baker Brothers, Inc., under license from Industrial Devices Corp., Detroit, Mich.

BAKER BROS., Inc. Toledo, Ohio
Makers of Better Machine Tools . . . Since 1867

If you write maker identify as IEN - 8836

MERRILL MATERIALS HANDLING DEVICES

3-M-2

MERRILL BROTHERS
56-14 ARNOLD AVENUE MASPETH, N. Y.

If you write maker identify as IEN - 8837

You can provide easy mobility to a variety of industrial products with

IRONBOUND ALL-PURPOSE
HANDLING UNITS . . .

POPULAR IRONBOUND
FLO TRUK

● An easy to handle ruggedly constructed unit for carrying bulky and heavy loads at lowest cost. Seven standard sizes with one or two push handles makes it easy to select the proper truck for your requirements. Ask an Ironbound engineer for suggestions.

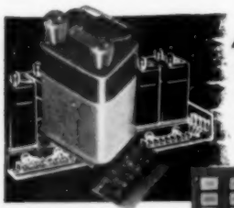
The HANDY for furniture and similar items.
The HAULER for cases, crates, tote boxes, etc.
The HUSKY for general use throughout the plant.

THE IRONBOUND "SAFETY-SKID" WITH ROUND CORNERS
Ironbound construction assures long hard use with complete safety to product and operator. Still the time proven method for handling of materials efficiently and economically.

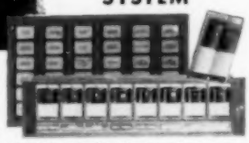
IRONBOUND
BOX & LUMBER COMPANY
Materials Handling Division
50 HOFFMAN PLACE • HILLSIDE, N. J.

MANUFACTURERS OF QUALITY BUILT SKIDS, SEMI-LIVE SKIDS, FLOOR TRUCKS, ROLL TRUCKS, DOLLIES AND PRY BARS

If you write maker identify as IEN - 8838



New
TEL-ALARM
"Unitized"
ANNUNCIATOR
SYSTEM



- WIDE VARIETY OF CIRCUIT ARRANGEMENTS TO MEET ANY NEED
- HERMETICALLY SEALED UNITS—CORROSION PROOF
- BACKLIGHTED NAMEPLATES OR TURRET LENSES
- STANDARDIZED FOR EASY USE—LOWER COST

HERE is the first "unitized" annunciator. Tel-Alarm incorporates a basic relay unit with many different circuit arrangements available because of a unique switchboard circuit header. Tel-Alarm is completely standardized for low cost and easy maintenance.

Tel-Alarm is corrosion proof, hermetically sealed and meets any Class I, Division 2 application. The units are completely self-contained — no complicated wiring—and merely plug into a standard Tel-Alarm chassis. Simple and easy to install.

You can get backlighted nameplates or the new Tel-Alarm *giant* turret lenses for greater visibility. Check into Tel-Alarm today.

Send for your free copy of Bulletin 440
Contains complete circuit sequence diagrams, full range of models for every need.

Tigerman Engineering COMPANY
4332 North Western Ave., Chicago, Ill.
"Protecting America's Industry"

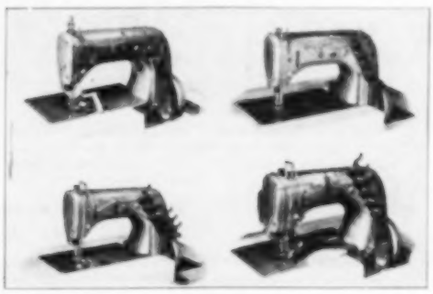
If you write maker identify as IEN - 8839

If you write maker identify as IEN - 8840

If you write maker identify as IEN - 8842

SEWING . . Flat bed machines available in 1 to 3 needle assemblies

Source: UNION SPECIAL MACHINE CO.
402 N. Franklin St., Chicago 10, Ill.



All for high speed production

New design common to the four machines recently added to the company's Series 50,000 equipment includes individual reservoirs to hold lubricant for the entire machine, anti-friction bearings in the feed lift, looper avoid and feed drive, new seize resistant main bearings, a taupe finish that can be kept clean readily, a coil spring to apply adjustable pressure directly to the presser foot.

Style 51300 BP, to the upper left in the illustration, is a single needle machine for miscellaneous operations on heavy knit wear. It is equipped with a trimming mechanism.

Style 51400 BD, to the upper right, is a two needle machine to hem and simultaneously insert elastic in knitted undergarments. It can be equipped with a close coupled puller.

Style 51900 BH, to the lower left, is a three needle machine to seam overalls, coats, combination suits. It produces a triple stitch felled seam Type LSC3.

Style 52900 BH, also a three needle machine, simultaneously seams and overedges the in seams and out seams of light weight corduroy pants, slacks, overalls.

If you write maker identify as IEN - 8843

COMMUNICATING . . Mobile radio for two way talk in a plant area

Source: MOTOROLA INC.
4543-47 Augusta Blvd., Chicago 51, Ill.

Nine tube transmitter

Mobile units for 6 or 12-volt dc. operation and associated base station models are available with local or remote control facilities in the company's new line of industrial radio equipment. Operation is with FCC approval in the 450 to 460 mc. band. A new vibrator type power supply is standard equipment. Nominal output power is 20 watts.

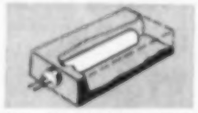
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8844

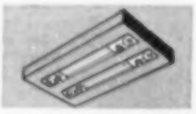
If you write maker identify as IEN - 8845

G-E CALROD® HEATERS GIVE DEPENDABLE SURFACE HEATING

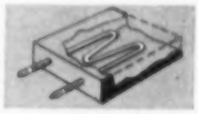
When you need dependable heating for platens, cylinders, dies, rolls—or any surface heating application—use an easy-to-install G-E heater. Use Calrod heaters for clamping on, wrapping around or spacing away from surfaces, locating in grooves, or drilled holes and casting into metal. They come in the widest range of standard sizes, ratings and sheath materials to meet almost any conceivable heating requirement.



For a "spot" of heat, insert cartridge heaters into holes.



For a "zone" of heat, clamp on strip or tubular heaters, or



cast dependable Calrod heaters permanently into metals.

FOR FREE BULLETINS

Get complete catalog of heaters and devices, GEC-1005, and "Heating Surfaces," GEA-5097, from your nearby G-E Sales Office or write: Sect. 720-76, General Electric Co., Schenectady, N. Y.

® Registered Trademark

GENERAL ELECTRIC

If you write maker identify as IEN - 8846

INSTANT ACTION
MECHANICALLY • ELECTRICALLY

New Dodge development provides positive protection for driven machines, motors, and speed reducer itself. Replaces standard torque-arm furnished with Dodge Reducers, which are available in single and double reduction series, capacities 1 to 43 hp, speeds 12 to 330 rpm. Write-for-details and special data on the new Tri-Matic Overload Release.

DODGE MANUFACTURING CORPORATION, 800 Union St., Mishawaka, Ind.

DODGE
of Mishawaka, Ind.

If you write maker identify as IEN - 8847

If you write maker identify as IEN - 8848

Brady QUIK-LABEL Markers ...via GRAYBAR

Positive, permanent identification saves time and ends guess work

Graybar-distributed Brady QUIK LABELS permit fast, economical identification of cables, wires, circuits, leads, switches, etc. Mounted on handy dispenser cards, QUIK LABELS stick to any surface without moistening. Tough and durable, they're Silicone coated to resist dirt, grease, and grime.

Brady QUIK LABELS are available in over 1000 different styles including standard NEMA colors, codes, symbols, and numbers. Special markers can be made to meet your particular requirements.

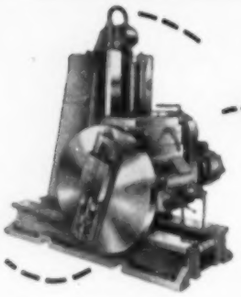
WRITE TO GRAYBAR FOR FREE SAMPLES AND HANDY CATALOG showing the complete line of Brady QUIK LABEL products—wire markers, safety signs, pipe markers, masks and many others. *Graybar Electric Co., Inc., 420 Lexington Avenue, New York 17, N. Y.*

Call Graybar *first* for . . . Everything Electrical GraybaR

If you write maker identify as IEN - 8849

FORNEY

BORING and FACING MACHINE



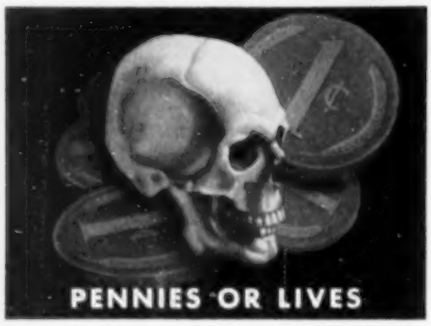
★ Boring
★ Facing
★ Milling
★ Tapping
★ Drilling

WRITE FOR NEW BULLETIN

Designed to eliminate conventional overhang for necessary bar travel providing greater resistance to bending stresses when boring — greater rigidity when milling — increased capacity when facing. Numerous applications can be made in boring, facing, drilling, tapping and milling. Duplicator attachments available. Standard model weighs 10,000 pounds.

FORNEY'S INCORPORATED
Manufacturers of Special Machinery Since 1910
ELM ST. NEW CASTLE, PENNSYLVANIA

If you write maker identify as IEN - 8850



One inferior fitting . . . a sudden failure . . . and a workman is maimed or killed. This can happen in your business if you try to skimp on quality in wire rope fittings. And it will cost you plenty in higher insurance rates, compensation, lost time and damages.

That's why blue-chip companies all over the U. S. insist on Laughlin wire rope and chain fittings. Drop forged for strength, designed to give an extra margin of working safety on every job, Laughlin fittings are a sound investment on original equipment and your best protection on every replacement.

Look for the trademark—for safety's sake.

Comprehensive Catalog No. 330 is free

THE THOMAS LAUGHLIN CO.
81 FORE ST., PORTLAND, MAINE

LAUGHLIN
THE MOST COMPLETE LINE OF WIRE ROPE AND CHAIN FITTINGS

IDEAS FOR YOU

Items of particular interest in the news other than straight new products, development pointing toward the future, unusual procedure to accomplish a point, suggestions for practical action, each to provide ideas for you.

Identify as IEN - 8851

Hans Ernest, Director of Research for Cincinnati Milling, has developed a new means to measure cutting tool life under varying conditions of work, coolant, speed and materials. He uses a tool that has been made radio active and collects the resulting chips made in a few seconds of cutting. He measures the radioactivity of the chips as a function of the amount of radio active tool material worn away in the cutting interval. This tells him the rate of tool wear since it has been found that 90 per cent or more of the radio active tool material worn away always remains attached to the chips.

Identify as IEN - 8852

Combinations of gage blocks to make any dimension in the range between 0.0001 and 0.9999 in., in steps of 0.0001 in., can be picked up quickly from a new set of tables contained in a book published by DoAll Company. The book also contains calculations for heat expansion for corrections to be made at temperatures above and below 68 deg. F. when the blocks are employed to check work other than steel. $2.95 buys a copy.

Identify as IEN - 8853

Dravo Corporation has assembled a number of case studies covering installations of its direct fired Counterflo space heater and will send them to you upon request. Representative cases include prevention of job shutdown on a construction job, using sewer gas as heater fuel, saving $17,000 on initial installation cost in a bus garage, serving two drying ovens in a porcelain plant. Perhaps you have a problem in heating that the company can match as soon as you name it.

Identify as IEN - 8854

Single copies of an 8-page report are available on request from the Employee Benefit Plan Review in which are highlighted the retirement plans of 61 industrial companies showing costs and benefits. Each is reviewed briefly in a paragraph naming the company, number of employees and quoting figures.

Identify as IEN - 8855

Lids are removed from hot bread pans as they pass along an oven conveyor by a new installation of an Eriez magnetic separator above the conveyor. The set-up makes it unnecessary for the operator to touch the hot lids.

Identify as IEN - 8856

Resistance too low for a resistor in a printed circuit? A touch or two of the Rush Fyberglas eraser will reduce the cross-section area and increase the resistance as desired, according to Eraser Company's Bulletin E 100.

If you write maker identify as IEN - 8857

Ready for Immediate Delivery

TWO complete bushing standards, the A.S.A. Standard plus our own Acme Standard, provides a much wider selection, enabling you to obtain bushings from stock that often would require special manufacture. Results in faster delivery, lower cost. Write for catalog.

Acme Interchangeable Eccentric

Acme Industrial Company
Makers of Hardened and Ground Precision Parts
215 N. Leffin St., Chicago 7, Illinois

If you write maker identify as IEN - 8858

How to install machinery

Faster! Easier! At lower cost!

ISOMODE® PADS permit you to install most machines without bolting, floor damage or costly, heavy bases. Placed under legs of equipment, they absorb impact-shocks and as much as 70% of the vibration. They thereby keep machines in place even without cementing — reduce noise — cut down both building and machine maintenance.

ISOMODE PADS, engineered from Du Pont "Neoprene," last for years. They permit you to locate or relocate machines anywhere, and on all types of flooring. Thousands of effective, money-saving installations have already been made — from bench equipment to high capacity punch presses. Why not try an installation to see the remarkable results first hand? Bulletin 415 gives more data — write today.

THE MB MANUFACTURING COMPANY, Inc.
1064 State St., New Haven 11, Conn.

If you write maker identify as IEN - 8859

ANNOUNCING

WALES drilling machine with new boring head

WALES new Deluxe Model Drilling Machine has been developed for more versatile operations including BORING, DRILLING, REAMING and CLOSE TOLERANCE LOCATING. *There is no other boring and drilling machine or jig borer like it.* Precision, speed and ease of operation are built right into this machine.

Accuracy is the primary consideration in manufacturing this exclusive Wales Drilling Machine that handles material of practically any length and up to 36" wide.

A pair of built-in "Scan-A-Scales" calibrated in ten thousandths of an inch accurately locate head and slide rail after rough positioning by rapid traverse.

This is too BIG a story to tell here so write TODAY for fully-illustrated, functionally-colored Catalog DM.

WALES-STRIPPIT CORPORATION
GEORGE F. WALES, Chairman
361 PAYNE AVE., NORTH TONAWANDA, N. Y.
(Between Buffalo and Niagara Falls)
WALES-STRIPPIT OF CANADA LTD., HAMILTON, ONTARIO
Specialists in Punching and Notching Equipment

SCAN-A-SCALES

Showing the 2 built-in "Scan-A-Scales" that accurately locate drill head and slide rail for "zeroing in". Air locking clamps hold the work rigid during drilling operations.

If you write maker identify as IEN - 8861

UNTIL RECENTLY the performance characteristics of pure-bristle brushes had never been duplicated in those made of synthetic materials. Now, because of Robinson's careful expert tipping and blending of nylon filaments, *TIPPED* nylon brushes contain all the qualities of pure bristle brushes . . . flexibility, resilience, taper and good length out. Robinson *TIPPED* nylon brushes are superior in painting performance . . . they pick up more paint and lay it down faster, smoother.

An outstanding reception is given to Robinson's *TIPPED* nylon brushes by maintenance, production, and master painters alike. Try them yourself! They are available through Distributors, Paint and Oil Dealers or Hardware Stores. Catalog mailed on request.

EDWARD E. ROBINSON
INCORPORATED
P.O. Box 147
95 PARK AVENUE · NUTLEY 10, N. J.
Telephone NUtley 7-4510

If you write maker identify as IEN - 8862

In hydraulic systems, as in this hydraulic accumulator ram, and all kinds of fluid-handling equipment, Raybestos-Manhattan Packings and Gaskets are assurance of continuous trouble-free operation. The R/M distributor near you will help you select the right R/M Packings and Gaskets for your valves, pumps, compressors, tanks and other equipment. Call him in.

R/M PACKINGS

RAYBESTOS-MANHATTAN, INC.
PACKING DIVISION, MANHEIM, PA.

FACTORIES: Bridgeport, Conn.; Manheim, Pa.; No. Charleston, S.C.; Crawfordsville, Ind.; Passaic, N.J.; Peterborough, Ontario, Canada

RAYBESTOS-MANHATTAN, INC., Manufacturers of Packings • Asbestos Textiles • Industrial Rubber Products • Abrasive and Diamond Wheels Rubber Covered Equipment • Brake Linings • Brake Blocks • Clutch Facings Fan Belts • Radiator Hose • Sintered Metal Products • Bowling Balls

IDEAS FOR YOU—Continued

Identify as IEN - 8864

General Electric lists 16 "high reliability" receiving tubes as now available to the replacement tube market for installation in industrial and communications equipment. The tubes are trade named Five Star and, in service, have cut tube failures of previous designs by as much as 10 to 1. The company has a list of the Five Star types, naming each and its prototype.

Identify as IEN - 8865

Marvel Tool will send you a 6 by 7-in. card under the title "Cutting Tool Pressure Guide" on which it has listed tool pressure data for various materials on given depths of cut and rate of feed. The materials include cast iron, soft steel, medium hard steel, nickel chromium steel, hard steel.

Identify as IEN - 8866

A fishing rod made of Fiberglas and finished by precision grinding is the subject of an article in a recent issue of "Grits and Grinds" by Norton Company. The butt end of a typical 5/16-in. rod blank has some 850,000 microscopically fine flexible glass strands bound under heat and pressure with plastic.

Identify as IEN - 8867

The feather edge left after machining a cast iron sheave was being removed by using emery cloth on the sheave as it was rotated on a lathe until it was decided to try a wire wheel brush. An Osborn brush selected for this purpose was mounted on a stand grinder. Now the sheaves are rotated by hand on a plate table in front of the brush. The previous method required 4 minutes per sheave. The new method requires 15 seconds. The brush costs about $3. It has a life of two months in service.

Identify as IEN - 8868

Folding money, newly printed, rides through a drying oven at the U. S. Bureau of Engraving and Printing on Owens-Corning Fiberglas conveyor tapes. Oven temperature is 300 deg. F. The tapes are subjected to temperatures ranging from 100 to 400 deg. F. and are alternately moist and dry in each cycle through the oven. The tapes have now been in service about 5 months without sign of failure. They replaced cotton tapes that lasted an average of 10 days and occasionally caught fire and ignited the money.

Identify as IEN - 8869

One tool does the work of three on weld grinding when equipped with new abrasive belt attachment, according to Buckeye Tools' new Bulletin S-13. An abrasive belt, riding on a contact wheel and an idler on the portable grinder, does the work of a cup wheel, a sander disc and a set-up wheel.

Identify as IEN - 8870

Solving the problem of removing water from heat-sensitive or fragile materials by vacuum drying is described for a number of specific examples in new F. J. Stokes Machine Catalog 720. One of these examples, such as freeze drying, might suggest an answer to you.

Identify as IEN - 8871

Illustrated booklet describes a scholarship program that has been set up by Reliance Electric & Engineering Co. to select and enroll four high school students at Fenn College School of Engineering. The students alternate periods of classroom and laboratory study with actual employment at the company's plant and office. The booklet describes the work and lists qualifications for scholarship assistance.

If you write maker identify as IEN - 8872

If you write maker identify as IEN - 8873

If you write maker identify as IEN - 8874

As light as the air it cleans

the NEW

M.S.A.
DUSTFOE #55
RESPIRATOR

50% less breathing resistance
30% less weight
35% smaller
BUREAU OF MINES APPROVAL #2166 FOR DUSTS

Streamlined in design, with emphasis on wearing comfort, job vision and balance, this modern respirator weighs only 2¼-oz. Workers everywhere report the Dustfoe #55 "feels as light as the air it cleans."

Use of nylon for filter holder and filter fork provides high structural and tensile strength, plus dimensional stability that assures a dependable filter seal. Respirator can be molded to fit any face; it is easily cleaned and sterilized; filter replacement is done in seconds. New "Static-Web" filter gives maximum breathing protection with minimum resistance.

Write now for complete details. Ask for Bulletin No. CM-14.

MSA SAFETY EQUIPMENT HEADQUARTERS

MINE SAFETY APPLIANCES CO.
Braddock, Thomas & Meade Sts.
Pittsburgh 8, Pa.
At Your Service: 66 Branch Offices in the United States

If you write maker identify as IEN - 8875

MIRACLE REINFORCEMENT BASE ADDS YEARS TO FLOOR LIFE!

• MINIMUM UPKEEP
• RUGGED
• SAFE

Floorsteel Rolls Out Like A Rug!

FLOORS STILL IN PERFECT CONDITION AFTER MORE THAN 25 YEARS! . . .

Worker installing Klemp Floorsteel Flexible Floor Area for reinforcement of concrete surface

KLEMP
HEXTEEL® or FLOORSTEEL®

REINFORCED (AND INSTALLED) INDUSTRIAL FLOORS

Klemp Hexteel or Floorsteel solve once and for all the problem of solidity, smoothness, and upkeep of any floor daily subjected to the hardest, most wearing assaults of trucks bearing materials of great weight. Fabricated of heavy-duty steel grid flooring material, they are scientifically designed to be filled with concrete or mastic on old or new floors (either wood or concrete). When filled, they make a solid one-piece, rigid, smooth, and seamless mat over the entire floor area, so that the tread of the wheel is always on steel.

IMPORTANT: Before installing—insure longer floor life and maintenance savings by consulting Klemp engineers who will gladly help you (without obligation) to make a thorough study of your flooring problems.

Send for your free copy of the informative booklet: "Instructions for Laying Klemp Hexteel and Floorsteel."

KLEMP
We Tread the World with Safety

KLEMP METAL GRATING CORP.
Executive Offices: 1271 North Branch Street, Chicago 22, Illinois

If you write make identify as IEN - 8876

Hundreds of PROFITABLE USES for—

Use these versatile flexible shaft tools

for all kinds of shop work including die sinking, polishing, reaming, grinding and similar jobs. They're quickly and easily coupled to any electric motor with 5/8" or 1/2" diameter spindles.

They come in two sizes. The 700 Series for precise, delicate work use .092" shank diameter tools. The 500 Series for heavy duty service use tools with shank diameters up to 1/4".

WRITE FOR THIS CATALOG. CATALOG T-51 describes Flexarms and many other S. S. White tools for industry. Send for your copy today.

THE S.S.White INDUSTRIAL DIVISION
DENTAL MFG. CO. Dept. N, 10 East 40th St. NEW YORK 16, N. Y.
WESTERN DISTRICT OFFICE: Timos Bldg., Long Beach, Calif.

If you write make identify as IEN - 8877

HOW to get More Life out of V-Belts

(Storage)

DON'T store V-Belts in a hot dry room or expose to direct rays of sun.

DON'T hang belts in such a way that their shape will be distorted.

DO specify and store *Bull Dog V-Belts* in adequate supply for normal replacement requirements. With Bull Dogs "normal" replacements are few and far between.

HERE'S WHY

Their DURABLE COVERS withstand severe wearing action of the sheave while sealing the belt against grease, dirt, moisture.

There's MINIMUM STRETCH due to a new, exclusive technique which results in fewer takeup adjustments, reduced slippage, longer belt life.

There's a STRONG, SPECIALLY ENGINEERED CORD SECTION with high tensile strength, increased load carrying capacity, ability to absorb shock loads.

The belt TAKES HEAVIEST FLEXING because BWH quality-controlled compounds run cooler and do not crack or deteriorate under severe flexing.

Your BWH distributor will be glad to show how Bull Dog V-Belts have the covers, cords and compounds to cut your belting costs. Call him today.

Another Quality Product of
BOSTON WOVEN HOSE & RUBBER CO.
Warehouse Stock: 111 N. Canal St., Chicago, Ill. Distributors in all Principal Cities
PLANT: Cambridge, Mass. • P. O. Box 1071, Boston 3, Mass., U. S. A.

If you write make identify as IEN - 8878

FREE! Revolvator's new Truck Index helps you pick size, capacity and type to suit your needs. Send coupon today.

REVOLVATOR Co.

REVOLVATOR CO.
8859 Tonnele Ave., North Bergen, N. J.
Gentlemen:
We want to know, without obligation, all about Revolvator Go-Getter Pallet Type Liftrucks.
Name
Position
Company
Address

If you write make identify as IEN - 8879

PROCESSING . . Side drive pulper for clean paper stocks, also defibers

Source: COWLES CO.
150 Trackside Place, Cayuga, N. Y.

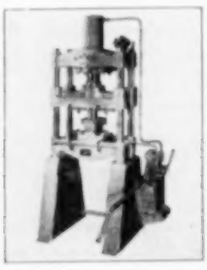
Ask for Bulletin 10

Beatapulper trade names new design of rotating element for application in the company's side drive pulping equipment, previously described IEN-6921-50. The new unit is designed to pulp, defiber, hydrate, fibrillate and shorten paper making fibers so they can be fed directly to a machine chest or, where a final control of cutting is required, to a Jordan. Assembly with the new rotor combines the principles of the previously developed Aquapulper and knife mill in paper pulp preparation.

If you write make identify as IEN - 8880

PRESS . . Hand hydraulic design rates 50 ton for die tryout, short run

Source: RODGERS HYDRAULIC INC.
7450 Walker St., Minneapolis 16, Minn.



Gage reads pressure

Model DP50-1812-2 is a new hand operated hydraulic press with platen area measuring 18 by 12 in., maximum opening of 12 in. and ram travel of 10 inches. Two strokes on the pump operating lever provide 1 in. of travel in approach action. When resistance is encountered a built in valve shifts the pump from approach speed to pressing speed where 40 strokes provide 1 in. of movement. Return speed is the same as approach.

Press tools can be set up in this new machine for test operation instead of tying up regular production equipment. The machine also can be employed for production of a few pieces, for short runs and for molding, straightening, assembly.

Identify as IEN - 8881

Oxy-Catalyst equipment originally developed to destroy carbon monoxide fumes in an engine was described some months ago for this purpose in IEN. The manager of an enameling company saw the item and wondered if the equipment could be used to neutralize fumes issuing from his ovens. A highly successful installation has been made. It not only burns up the undesirable fumes but also produces sufficient heat in the process to supply the ovens. Now the operators turn the gas off after the initial start has been made as it no longer is required for continuing operation.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write make identify as IEN - 8882

this new WELDING DESIGN MANUAL **FREE!** FOR THE ASKING

To assist you in your re-tooling problems . . . or to help you analyze your present welding methods so that you may enjoy maximum speed, efficiency, and economy in many of YOUR production problems.

Giant new 4th Edition contains 62 new photographs, 132 new drawings, 72 pages of helpful data covering basic and advanced welding techniques and designs used in fabricating and assembly. Profusely illustrated with application drawings; weld diagrams; tables of melting temperatures, strengths, corrosion factors; charts; alloy recommendations; etc. Convenient digest size.

This just-off-the-press book is "must" reading for anyone engaged in defense production and design, and will certainly be time profitably spent for any production man.

SEE . . . The unbelievable savings in metal-joining which can now be yours through the use of "Low Temperature Welding Alloys"® discovered a few years ago and now used in over 78,000 industrial plants throughout America for more efficient metal-working production as well as for salvaging irreplaceable tool and machine parts.

Over 100 different, new, EUTECTIC Low Temperature WELDING ALLOYS® and EUTECTOR® Fluxes are job-engineered for use on ALL metals—cast iron, alloy steels, aluminum, copper and nickel alloys, die castings, overlays, etc., and may be applied with ALL heating methods—torch, arc, furnace, induction heating, etc.

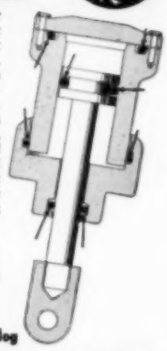
SEND FOR YOUR COPY TODAY!

EUTECTIC WELDING ALLOYS CORPORATION
172nd Street at Northern Boulevard • Flushing, New York, N. Y.

If you write make identify as IEN - 8883

O-RINGS by INJECTION MOLDING

Dependable Hydraulic Seals



Minnesota O-Rings function in air or gas systems as well as in hydraulic systems. Air cylinders . . . hydraulic valves . . . hoisting mechanisms . . . water pumps . . . bottling machines . . . refrigerators . . . motors . . . lubricators . . . are a few of their uses. Minnesota's exclusive injection process makes possible very close dimensions, uniformity in mass production and downright economy. We use special compounds of synthetic rubber to meet your exact requirements. Let us quote on your next hydraulic packing installation.

Manufacturers of all types of small rubber parts

Write for O-Ring Catalog

MINNESOTA RUBBER & GASKET CO.
3630 WOODDALE AVE., MINNEAPOLIS 16, MINN.

If you write make identify as IEN - 8884

WAGNER ELLS and CONNECTORS
For Any Pipe Railing Job

1. Easy to use
2. Quick assembly
3. Cuts costs
4. Simplifies welding
5. Neat appearance

WAGNER ELLS and CONNECTORS make complicated pipe railing jobs easy. The connectors slip into Ell with spring fit, hold pipe in place until the welding operation is completed. Be sure to have a supply of WAGNER ELLS and CONNECTORS on hand and make savings in time, labor and money and always get modern and durable railing jobs.
WRITE TODAY for information on the many ways you will profit by using WAGNER ELLS and CONNECTORS!

BY WELDING SEAMS, ELLS CAN BE USED FOR AIR, WATER, STEAM, OIL, GAS LINES, ETC.

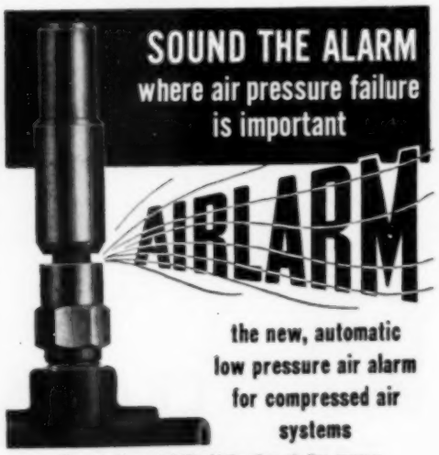
	45° Ells	90° Ells	Connectors
1 1/4" Pipe	.70 ea.	.75 ea.	.15 ea.
1 1/2" Pipe	.85 ea.	.90 ea.	.16 ea.
" 2" Pipe	1.10 ea.	1.20 ea.	.18 ea.

"SPECIAL QUANTITY DISCOUNTS"

WAGNER IRON WORKS
1905 S. First St. Milwaukee 1, Wis.
Phone: Mitchell 5-4730

If you write make identify as IEN - 8885

SOUND THE ALARM where air pressure failure is important



the new, automatic low pressure air alarm for compressed air systems

Blows continuous shrill whistle when air line pressure drops below pre-selected value. Automatically stops blowing when pressure is restored. Completely mechanical; entirely self-contained; requires no auxiliaries. Fig. 130, Industrial Model, illustrated is only 4 1/2" high over-all. Price $12.75.

Distributorships Open

AIRLARM P. O. BOX 13034 HOUSTON 19, TEX.

If you write maker identify as IEN - 8886

send for this sample . . . it may open your eyes!

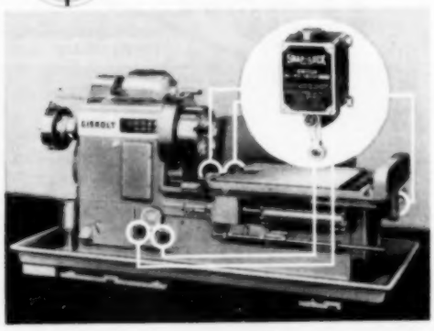
A simple request will bring you a sample of one of the most amazing materials ever developed by science. It is Tufflex, the fiber felt, and it's cutting production costs—adding quality—in many industries today. Tufflex is downy soft—amazingly resilient. It cushions. It withstands heavy impact blows. It insulates. It deadens sound. It is easily fabricated to any size or shape. Tufflex is available in a variety of densities and thicknesses—and in moisture resistant and fire retardant forms. Learn more about the many new uses for Tufflex—send today for your sample and complete information. Wood Conversion Company, Dept. 126-82, First National Bank Bldg., St. Paul 1, Minnesota.

TUFFLEX* A Product of Weyerhaeuser

*REG. U. S. PAT. OFF.

If you write maker identify as IEN - 8887

GISHOLT **ANOTHER IMPORTANT MEMBER OF THE SNAP-LOCK 90%***



GISHOLT SPECIFIES SNAP-LOCK LIMIT SWITCHES FOR DEPENDABLE AUTOMATIC OPERATION OF THE SIMPLIMATIC LATHE

Here is another example of the need for dependable limit switch operation under exacting conditions of heavy-duty service.

The limit switches employed to control certain of the motions in the completely automatic cycle of the Gisholt Simplimatic Automatic Lathe are a critical factor in the satisfactory operation of the machine.

Snap-Lock was Gisholt's logical choice—and five separate uses of it are made on the Simplimatic: three to control tool slides, one to control the spindle during retraction of the platen table, and one to engage the second speed when a two-speed drive-motor is used.

Profit by Gisholt's example. When you want dependable limit switch operation, specify Snap-Lock. There is a size and type to suit every industrial application; special mountings are available. May we show you how they can be designed into your product?

The complete range of Namco Standard Snap-Lock Limit Switches is illustrated and tabulated in our new engineering bulletin EM-51. Ask for your copy.

*More than 90% of America's leading machine tool builders have standardized on Namco Snap-Lock Limit Switches—for dependable operation under the extremes of heavy-duty service.

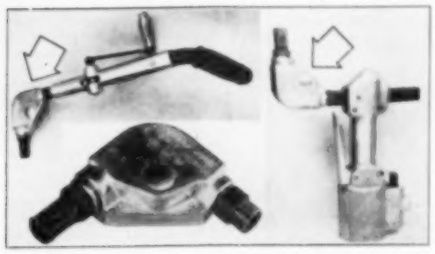
ELECTRICAL MANUFACTURING DIVISION
178 East 131st Street • Cleveland 8, Ohio

NATIONAL ACME
CLEVELAND, OHIO

If you write maker identify as IEN - 8889

FASTENING . . Angle adapter to apply Huck pull type blind rivet

Source: HUCK MFG. CO.
2478-82 Bellevue Ave., Detroit 7, Mich.



The rivets are aluminum or mild steel

New adapter has been developed for use with the company's hand or power pulling tools with which to apply the Huck pull type blind rivet, previously described IEN-1565-50. The adapter makes it possible to reach into previously inaccessible deep channels and into corners to apply and set the rivet. A worker operating on one side only can set either the self-plugging or the pull-through blind rivet in sizes from 1/8 to 5/16 in. where clearance space is limited to 4 in. from the nose of the tool to the back face of the adapter.

The rivet is made with a hollow shank through which is inserted a tapered head plug integral with a serrated shank. This shank extends through the head end of the rivet for application of the pulling tool which bears against the head and exerts pulling action to bring the stem head inside the rivet shank. This expands the shank to form the inner head. At a predetermined pressure the stem end pulls through or breaks off and remains to plug the rivet solid.

If you write maker identify as IEN - 8890

CLEANING . . Rotary brush machine to scrub, wax and polish a floor

Source: S. C. JOHNSON & SON INC.
1523-27 Howe St., Racine, Wis.

$305 with polishing brush

Special 16 is a new all-purpose floor machine with a 1/2-hp. motor and a 16-in. brush for operation on 110/220-volt ac. The assembly is in a polished aluminum housing standing 10 1/2 in. in overall height.

Interchangeable attachments include standard polishing and scrubbing pressures, a solution tank, a grinding disc with Carborundum blocks to resurface concrete, terrazzo and other mineral composition floors, a steel wool pad holder and a cushioned disc for sanding and buffing. A polishing brush is standard.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8891

DEPENDABLE ACCURATE CONTROL OF PROCESS EQUIPMENT WITH THE NEW... Bell Switch CONTROL

HERE is help for liquid level control problems. The new Bell Switch Control incorporates a snap-action magnetic proximity switch which is actuated by a float operated magnetic armature. Gives you accurate control and automatic cutoff of such equipment as limit controls, scrubbers, separators and also can furnish high and low stage alarms. Especially suitable for use with highly corrosive fluids. There is virtually no liquid level control problem that can't be solved with this dependable, low maintenance Bell Switch Control. A number of standard and special mounting styles available to meet particular requirements.

- ✓ No Packing Boxes, Bellows or Diaphragms to worry over and replace
- ✓ Rugged Spun Steel Body
- ✓ Eliminates False Action due to Turbulence
- ✓ Standard or Explosion Proof Cover Available
- ✓ Mechanism Completely Isolated from Corrosive Fluids
- ✓ Switch Rating: 10 amps. at 110 volts; 5 amps. at 220 volts, A. C. Direct loads to 1/2 h.p. A.C. ratings

WRITE TODAY FOR COMPLETE DESCRIPTIVE LITERATURE

JO-BELL PRODUCTS, INCORPORATED
4840 So. St. Louis Ave. • Chicago 32, Illinois
Liquid Level Controls • Carbonators • Magnetic Switches • Special Controls

If you write maker identify as IEN - 8892

BOSS THE BEST KNOWN NAME IN **WORK GLOVES**

There's a perfect Boss Glove for *every* job

WHITE CANTON FLANNEL GLOVES
DOUBLE PALM GLOVES
HOT MILL GLOVES & MITTENS
LEATHER PALM GLOVES
JERSEY GLOVES & MITTENS
ALL-LEATHER GLOVES

HI-BAK 591 A BOSS head liner. Complete range of styles shown in catalog.

ASK YOUR DISTRIBUTOR or send for free copy of complete catalog and new "WORK GLOVE SELECTOR." The quick and easy way to find exactly the right glove for every job. Also see "Thomas' Register," 1952 Edition.

THE BOSS MANUFACTURING CO., DEPT. IE-8, KEWANEE, ILL.

If you write maker identify as IEN - 8893

This booklet will help you AVOID COSTLY FIRE LOSSES

Send for eye-opening facts on Rockwood's Triple-Action WaterFOG Nozzle

Here's a real all-purpose fire fighting nozzle. The Rockwood SG-48 can be quickly changed to a high velocity WaterFOG, straight water stream or low velocity WaterFOG pattern. Extinguishes fires in flammable liquids or ordinary combustibles faster, with less water and less damage. Protects firemen from hot fumes and gases and is easier to handle. Operates satisfactorily at 50 psi at the nozzle. For industrial and chemical plants, oil refineries, mercantile and public buildings, etc. Tested by Underwriters' Laboratories, Inc. and approved by Factory Mutual Laboratories.

Bulletin C-501R gives you complete data. Send for it today. Distributors in all principal cities.

ROCKWOOD SPRINKLER COMPANY
Engineers Water . . . To Cut Fire Losses
40 HARLOW STREET, WORCESTER 5, MASS.

If you write maker identify as IEN - 8894

new benchmaster HALF-PRESS

SOLVES **LOW TONNAGE, BIG CAPACITY** PROBLEMS!

Now you don't need to use *big* presses just to get work capacity. Benchmaster solves the problem with 4-ton HALF-PRESSES! Here are typical ways the HALF-PRESS cuts machine requirements:

SIZING SHELL CASE OPENINGS
Low tonnage, big vertical capacity is required. Note how the Benchmaster HALF-PRESS mounts on "T" shape frame, extending shut height to 16". Bolster is adjustable for various shell case lengths.

NIBBLING SHELL CASE ENDS—
Shut height of conventional press was insufficient to accommodate tooling and work. Benchmaster HALF-PRESS is mounted to special base carrying rotating pilot ring. Shell case is now quickly nibbled to exact length with low cost press.

If you have big capacity, small tonnage jobs, investigate Benchmaster HALF-PRESSES! Our engineering services will help solve your problems and show you how to save money. Write, describing your work requirements!

benchmaster MANUFACTURING COMPANY

1835 W. MISSISSIPPI AVENUE, GLENDORA, CALIFORNIA

If you write maker identify as IEN - 8895

Boost Output with MEAD WORK FEEDERS

Feed Work Fast to Drill or Tap!

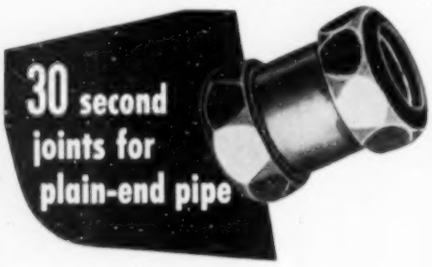
As-fast-as-you-can-step-on-a-button the sensational new Mead pneumatic WORKFEEDER delivers, holds, ejects small parts to be drilled, reamed or tapped. Accommodates stampings, castings, screw machine parts, etc. Adjustable to sizes up to 3". Foot automatic control; operator's left hand is free to keep hopper loaded. Write for new Mead AIR POWER Catalog describing "Mead Family" of air operated fixtures and devices.

MEAD SPECIALTIES COMPANY

4114 NO. KNOX AVE., DEPT. EA-82, CHICAGO 41, ILL.

If you write maker identify as IEN - 8896

30 second joints for plain-end pipe



No threading, no exact pipe fitting or alignment necessary. Slip the Dresser Style 65 over unthreaded pipe ends, tighten with a wrench, and you've got a permanent, "flexible-tight" joint . . . protection against vibration, normal expansion and contraction stresses that cause leaks in other joints.

Sizes ½" to 2". Write for catalog.

Complete line of couplings, elbows, tees, etc. available.

DRESSER "NO-THREAD" FITTINGS

Dresser Mfg. Div., 59 Fisher Ave., Bradford, Pa.—One of the Dresser Industries. Warehouses: 1121 Rothwell St., Houston, Tex.; 1015 Bayshore Highway, S. San Francisco, Calif.—Sales Offices: New York, Philadelphia, Chicago, Houston, South San Francisco—In Canada: 629 Adelaide St., W., Toronto.

If you write maker identify as IEN - 8897

Eliminate Overheating Save Fuel

REZNOR GAS UNIT HEATER

World's largest seller

You can heat a large area with Reznor heaters. You can heat part of it buildings and not all of it with Reznor heaters. Or, if you need just enough heat to take the edge off, in spring or fall, Reznor Suspended Gas Unit Heaters will do that. Don't waste fuel by heating the full cubic of big rooms when you want to heat part . . . don't waste fuel by long-time firing when a few minutes heat in the "right" place with Reznor Gas Heating Machines will do the job better than other methods. There's a Reznor dealer near you. Write us for his name.

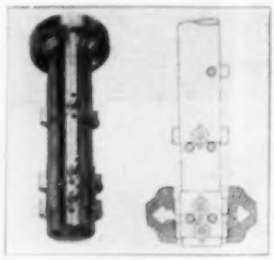
REZNOR MANUFACTURING CO.
10 UNION ST., MERCER, PENNA.
Send me 20-page catalog in full color

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____

If you write maker identify as IEN - 8898

BORING . . Adjustable bar, solid carbide blades, for car wheels

Source: GIDDINGS & LEWIS MACHINE TOOL CO.
140-44 Doty St., Fond du Lac, Wis.



Adjusts at dials

Three-in-One designates a new adjustable carbide blade boring bar in which intermediate blades are located between the first roughing and the final finishing blades. This arrangement assures continuous cutter contact in the bore when the bar is being operated in cored hub wheels. There is no chance for deflection or needless blade breakage while both sets of blades are taking roughing cuts.

Boring continues to complete the roughing cut through the wheel hub before the finishing blades enter to remove an approximate 0.03 in. of metal with an approximate ⅝-in. finishing feed. The complete boring cycle requires 2.3 minutes per wheel. Holes to 12 in. in diameter can be bored.

If you write maker identify as IEN - 8899

CONNECTOR . . Plug and receptacle, Ordnance Specification for heavy duty

Source: CANNON ELECTRIC CO.
P. O. Box 75-A, Lincoln Heights, Los Angeles 31, Calif.

Ask for Bulletin AO-1952

Series AO designates a new line of plugs and receptacles to make connections in electrical circuits on military vehicles and to provide suitable external electric circuits in the presence of moisture, dust, vibration, shock. Both plug and receptacle types follow, in general, basic design of the AN and associated types simplified for rugged duty.

A grommet retaining nut fits over grommet and terminals to provide weather proof cable entry seal. Insulators are made of resilient materials with high dielectric qualities. The shells are aluminum alloy with cadmium plate and natural Iridite finish. The illustration shows an assembly of an AO-EA06 plug and AO-RB02 receptacle with solder pots for wiring.

Identify as IEN - 8900

The snow problem will be materially eased for one trucking concern this coming winter. It has ordered a standard Yale & Towne one-ton engine driven fork lift truck equipped with a detachable combination snow plow and salt bin. It clamps on the forks so it can be removed or installed quickly. It plows the snow and distributes the salt.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

If you write maker identify as IEN - 8901

Here's Destruction You Can See...

Abrasive dusts destroy equipment just as surely.

TRAP DUST AT ITS SOURCE with TORIT DUST COLLECTORS

Fire is a possibility. Abrasive dust damage to equipment and finished parts is almost a certainty unless grinding, cutting and polishing wheels are properly equipped.

Torit Dust Collectors are compact, self-contained units that are simple to install, economical to operate and low on maintenance cost. They may be placed where convenient and moved as plant layouts dictate.

There are Torit Dust Collectors for every standard machine, and special adaptations can be quickly designed and fabricated. For complete details and the Torit catalog, write:

TORIT MANUFACTURING CO.
286 Walnut Street St. Paul 2, Minn.

If you write maker identify as IEN - 8902

How Much is "TOOL FAG" Production L···A···G Costing You?

Prevent This LOSS with Mall Pneumatic Power Tools

Turn out more work, easier faster, with lightweight, vibrationless tools that reduce fatigue to an absolute maximum. Typical of Mall compactness and precision in pneumatic tools is this No. PG-K1030L Lever Throttle Die Grinder, weighing only ¾ of a pound and easily held in the palm of the hand. With a guaranteed speed of 30,000 rpm. and a maximum of .0015 runout at the collet, this Mall Pneumatic Die Grinder assures accuracy, precision and ease of operation.

Send For Complete Illustrated Bulletin With Price List.
40 Factory-Owned Warehouses, Coast To Coast, To Serve Our Customers.

MALL TOOL COMPANY
7752 S. Chicago Ave. • Chicago 19, Illinois

If you write maker identify as IEN - 8903

FOR SAFETY *Interlock!*

PROTECT MEN AND EQUIPMENT AGAINST "MENTAL LAPSE".

Operator is shown entering compartment which is interlocked with protective equipment. Diagram shows key interchange scheme.

KIRK KEY INTERLOCK *System*

Provides a predetermined sequence of operation . . . and prevents "mental lapse" which might cause damage to men and equipment.

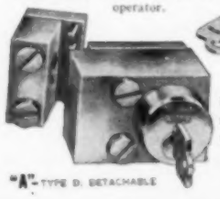
A Typical application is shown above. "A" is interlocked with "B" to prevent opening of door "A" when switch (locked by "B") is closed and in service. Only when protective switch (with "B" interlock) is opened, and locked open with a Kirk Key can the same key be released to unlock "A" (on door).

This makes sure that circuits in compartment with "A" interlock are dead and safe to approach. The main switch locked by "B" cannot be reclosed until "A" is locked closed, making the same key available to unlock "B", and thus allow the switch to be closed in again.

The key can now be removed from "B", indicating that the circuits are energized.

When removed, the key is usually kept on a rack and used only by an authorized operator.

"B"-TYPE F FLAT MOUNTING



"A"-TYPE D. DETACHABLE

Unlimited interlocking schemes may be arranged from many types of Kirk Key Interlocks

Write for Bulletin 1700 for many more details.

R&IE EQUIPMENT DIVISION
I-T-E CIRCUIT BREAKER CO.
GREENSBURG, PA.

If you write maker identify as IEN - 8905

Elliott has a background of more than 50 years . . . exclusively in . . .

FLEXIBLE SHAFTS

Elliott specializes in Heavy Duty Flexible Shaft units for power take-off of truck and tractors, for operating pumps, compressors, winches, and similar units * Elliott supplies Flexible Shafts to builders of Grinders, Sanders, Polishers, Concrete Vibrators and other portable tools for working in metals, plastics, wood and ceramics * Elliott manufactures Cores with windings and materials to suit every particular requirement, using the best grades of Full Music wire, Stainless Steel wire, or High Carbon wire . . . to fit the job.

Bring your Power Transmission Problems to . . .

Elliott Engineering Service will help you select the type of Flexible Shafting and standard accessories which are best suited to your particular type of work. Inquiries are held in confidence, and this service is yours without obligation.

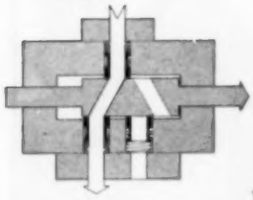
Elliott MANUFACTURING CO.
700 Prospect Ave., Binghamton, N.Y.

Ask for Circular 207 • See our Catalog in SWEET'S File for Product Designers

If you write maker identify as IEN - 8906

0 TO 250 PSI 0 TO 1500 PSI 0 TO 3000 PSI

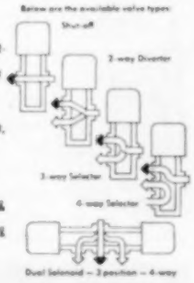
SOLENOID Shear-Seal VALVES



OPERATING ADVANTAGES OF THE PATENTED "SHEAR-SEAL" PRINCIPLE

- LEAK PROOF—Sliding Metal to Metal Seal
- NO PRESSURE WASTE—Large Unobstructed Tubular Flow Passages
- WEARS-IN WHERE OTHERS WEAR-OUT—Seals are Self-Lapping with Use
- NO WIRE DRAWING—Flow is Through, Not Across Shear-Seals
- NO FAILURE CAUSED BY DIRT & PIPE SCALE—Wiping Action of Sealing Members

Below are the available valve types:



For a full description of the Barksdale "Shear-Seal" principle write for Bulletin BVM-1, and for complete information on Solenoid Valves ask for Catalog 18-2.

BARKSDALE VALVES 1566 E. SLAUSON AVE. LOS ANGELES 11, CALIF.

If you write maker identify as IEN - 8908

SEALING . . Caulking guns for operation by hand and by air

Source: SALSBURY CORP.
1159-63 E. Florence Ave., Los Angeles 1, Calif.

Interchangeable nozzles and quick opening design

Flo Gun trade names a new line of pneumatically operated and hand screw type caulking guns to deliver regular caulking and sealing compounds, mastics and similar sealing materials. Three sizes hold 1 quart, 1 pint and 0.3 pint. The largest unit weighs about 4 pounds. It and the next smallest size in the line can be obtained with either steel or stainless steel barrels. A disposable barrel is available with the small gun for use with sticky and fast setting compounds. It can be thrown away and replaced at less expense than to clean it out.

If you write maker identify as IEN - 8909

HOSE . . Short rubber section handles concrete from mixer to truck

Source: UNITED STATES RUBBER CO.
1230 Sixth Ave., New York 20, N. Y.

Cleans easily
remains flexible

Diameter ranges from 18 to 24 in. and length is from 18 to 36 in. in a new fabric-rubber hose to transfer concrete from a batch mixer to a truck. The hose is designed to replace the canvas spout that has been used in this operation. Its life in service is about 6 months as compared to a single week for the canvas. One end is attached to the bottom of the batch mixer. The other hangs free over the hopper of the truck to be loaded.

If you write maker identify as IEN - 8910

CUTTING . . Hand operated tool cuts head from 55 gal. or smaller drum

Source: L. M. GILBERT CO.
430 Chestnut St., Philadelphia 6, Pa.

Rides drum chime

Model PDH-52 is new design in the company's line of portable De-Header cutting tools. It applies on any steel drum from 55 gal. down. It shears the head from the drum and leaves a smooth edge. The bung hole in the head provides a good place to hold the head and lift it out when it is cut loose. The shear wheel can be replaced. Weight is 36 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8911

FOR THESE *Extras*

LONGER SERVICE
LESS MAINTENANCE
HIGHER PERFORMANCE

use STAINLESS STEEL FLOATS

YOU can solve virtually all your float problems by standardizing on Stainless Steel Floats from Chicago Float Works. You get longer service and less maintenance because Stainless Steel Floats resist corrosion and withstand high temperatures and pressures. Extreme strength insures them against collapsing and they always respond perfectly to level fluctuations because of permanently high buoyancy. Install our high quality Stainless Steel Floats and be sure of long, dependable operation!

WRITE FOR FREE CATALOG

This illustrated catalog gives complete details on sizes, shapes, spud connections, and engineering data on Chicago's complete line of standard or special floats.

CHICAGO FLOAT WORKS, INC.
2340 S. Western Ave., Chicago 8, Illinois

If you write maker identify as IEN - 8912

SILVER-PLATED FUSES

G.E. silver-plates these contact surfaces at no extra cost to you*

"You can't beat silver as a conductor of electricity. That's why General Electric's new renewable fuse with silver-plated contact surfaces appeals to me. Silver-plating helps keep the ferrule or blades on G-E renewable fuses from heating up as blades of ordinary fuses do because of copper oxidation. This means fewer replacements, fewer shutdowns for my company—fewer emergency calls for me."

You'll like these other features of G-E renewable fuses too

1. Simple three-piece construction of both knife-blade and ferrule types.
2. Newly designed links give accurate and consistent time-delay.
3. Ribbed cap on knife-blade sizes gives better grip than knurling. You can tell at a glance which end comes off.

For complete data, address Section D51-842, Construction Materials Division, General Electric Company, Bridgeport 2, Connecticut.

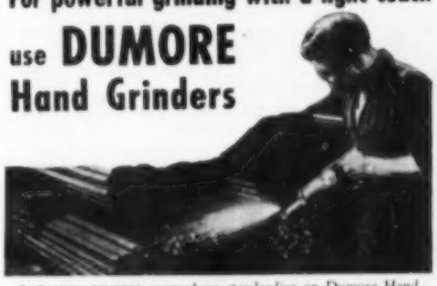
*All ratings of renewable time-delay fuses only

You can put your confidence in—

GENERAL ELECTRIC

If you write maker identify as IEN - 8913

For powerful grinding with a light touch use DUMORE Hand Grinders



MANUFACTURERS everywhere standardize on Dumore Hand Grinders. Job proved in 100,000 applications. A precision Dumore-quality tool, power-packed and perfectly balanced. Continuous duty motors. Dynamically balanced armatures. Preselected and fitted ball-bearings. 1/40 to 1/4 hp motors.

There's a DUMORE for every job

Series 9	Series 10	Series 8	Series 3	Series 4
1/40 hp.	1/10 hp.	1/20 hp.	1/14 hp.	1/40 hp.
15,500 rpm	22,000 rpm	18,000 rpm	17,000 rpm	28,000 rpm

Lightweight and compact. Largest size permits continuous, high-production heavy-duty grinding. Smallest for light work.

Ask your nearby industrial distributor for a demonstration — or write

THE DUMORE COMPANY
1319 Seventeenth Street • Racine, Wisconsin

If you write maker identify as IEN - 8914

STANDARDIZE ON THESE OTHER PHEOLL PRODUCTS
Knurled Nuts
Cap Screws
Wing Nuts
Machine Screws
Square Head Set Screws
Sems
Tapping Screws
Phillips Recessed Head Screws

Ample bearing surface of Pheoll Brass Washers offer added holding power when used with machine screws, wood screws, cap screws, and bolts. Brass washers are stocked in two standard sizes: the Large Pattern and the Small Pattern which fit screw sizes from No. 0 to No. 24 and bolt sizes from 1/4 to 1 1/2". Large Pattern brass washers have large outside diameters and extra thickness. Small Pattern washers have smaller o.d. and are proportionately less in thickness.

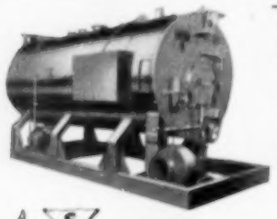
● All brass washers are made to accurate gage, with holes centered and dimensions held to close tolerances. Washers are blanked from special brass stock, and are flat and free from burrs. They are economical to use and offer many advantages over ordinary steel washers. Check now with Pheoll to learn of these advantages.

NOTE: Brass Washer Sems are available if desired. Special brass, copper and plated washers to order.

Pheoll MANUFACTURING COMPANY • 5700 Roosevelt Road Chicago 50, Illinois
SCREWS • BOLTS • NUTS
Industrial Fasteners and Holding Devices

If you write maker identify as IEN - 8915

AMESTEAM GENERATOR KNOCKS OUT HIGH STEAM COSTS!



10 - 500 h.p.
15# - 200# w.p.

★

OIL . . . GAS
or
OIL - GAS
Combinations

★

FUEL — 80% Guaranteed Efficiency

LABOR — Minimum Attention Required

WATCH FOR ME NEXT MONTH . . . MEANWHILE WRITE FOR BULLETIN 1050

AMES IRON WORKS
BOX 1-8, OSWEGO, N.Y.

Builders of Better Boilers since 1848

Manufactured under license in Canada by VOLCANO, Ltd., Montreal, P. Q.

If you write maker identify as IEN - 8916

Clean Lustrous OFFICE FLOORS reflect Good Management

Look at your floors. Everyone else does! Give your floors that well-groomed look... and preserve their wearing qualities, too... by keeping them properly cleaned, waxed and polished. Just one HILD Machine with attachments will scrub, wax, polish, buff, sand, grind and steel-wool floors of all kinds. Write for complete information.

1927-1952 HILD System MAINTENANCE EQUIPMENT & SUPPLIES OUR 25TH YEAR

Also Maintains Factory Floors

The same husky HILD Floor Machine has special attachments for power-scraping bumpy, grease-caked factory floors ... and for scrubbing off dangerous grease and oil slicks.

Write today for FREE CIRCULAR on FLOOR MAINTENANCE.

HILD FLOOR MACHINE CO.
140 W. Washington Boulevard
Dept. IEN-8, Chicago 6, Ill.

If you write maker identify as IEN - 8917

Chip Away... PAINT RUST SCALE

with **AURAND CLEANING TOOLS**

Clean off accumulations of scale, paint, rust or any foreign matter from any hard surface with Aurand Cleaning Tools. Toothed cutting wheels, loose pinioned on rotating head chip away accumulations at high speed. Positive depth shoe prevents cutting into permanent surface and assures uniform cleaning of entire area.

Two sizes in electric or pneumatic models.

FOR FULL DETAILS, WRITE DEPT. 649

AURAND MFG. & EQUIP. CO.
2843 Colerain Avenue • CINCINNATI, OHIO

If you write maker identify as IEN - 8918

MOTOR CONTROL . . Section assembly for two or more ac. motors to 200 hp.

Source: CONTINENTAL ELECTRIC EQUIPMENT CO.
Box 1055-A, Cincinnati 1, Ohio

Illustrations, description, specifications, Bulletin 400

Concentrol trade names a new standardized modular motor control center employing sectional units measuring 20 in. in width and depth by even multiples of 14 in. in height. These units assemble in a single column 90 in. in height including base and top sections. Multiple units can be placed side by side as required. Each is factory wired ready for line and equipment connections to provide multiple motor control in a central location with starters ranging from NEMA Size 1 through 5.

Individual units connect to vertical bus bars by pushing them into place in their recesses. They can be disconnected and pulled out for servicing or inspection.

If you write maker identify as IEN - 8919

SWITCH . . Push button design snap acting, 5 amp. on 110 volt ac.

Source: MICRO SWITCH
30 E. Spring St., Freeport, Ill.

Height 1 1/4 inches

Catalog 1PB3 is a new push button assembly for panel mounting with the company's Catalog 1SM1 sub-miniature switch, smallest unit in the Micro line. The push button plunger mechanism is sealed to the panel to protect the switch unit behind the panel. The two sub-assemblies composing the unit are positively connected by means of a spring latch. Wiring is completed before the switch is connected to the plunger mechanism.

Operating force is about 2 pounds. Contact break distance is minimum at 0.01 inch. Bushing and plunger are the only exposed parts when the switch is panel mounted.

Identify as IEN - 8920

Temperature reading by means of crayon-like Templistiks is the subject of a page of notes the company has assembled. Checking the temperatures of rapidly moving pieces and rotating objects, temperature distribution of a heated work piece, temperature indication against a brightly radiating background are some of the subjects. Work range is from a little over 100 to 2,000 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8921

FLEXIBLE AS STRING . . . GLASS-CLEAR . FEATHER-LIGHT . . . FULLY RESISTANT TO ACIDS, ALKALIES, OILS, GREASES, AND WATERS . . . MIRROR-SMOOTH . . . TOUGH AS LEATHER . . . NON-OXIDIZING . . NON-TOXIC . . . LONG-WEARING . . . FOR THE TRANSMISSION OF LIQUIDS, GASES, AND SEMI-SOLIDS.

TYGON Tubing is available in six standard compounds — continuous lengths — bores up to 2" ID — with or without outer braid reinforcement. Special compounds and sizes made to order.

Write, today, for detailed information and technical Bulletin T-77!

202C

U. S. STONEWARE
AKRON 9, OHIO
PLASTICS AND SYNTHETICS DIVISION

If you write maker identify as IEN - 8922

You can use CABOT'S BRUSH CLEANER over and over!

There is real economy in Cabot's Brush Cleaner. Won't evaporate. Can be used over and over again. Makes hardened old brushes like new. Cleans out fresh paint almost immediately. Rinses out easily with water. Non-inflammable. Comes in pints, quarts and gallons.

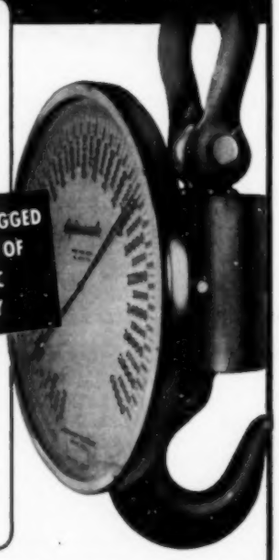
WRITE TODAY for FREE trial sample of Cabot's Brush Cleaner.

SAMUEL CABOT INC.
823 Oliver Building
Boston 9, Mass.

If you write maker identify as IEN - 8923

HYDROSCALE SIMPLIFIES WEIGHING!

- Weighs as you lift the load to move it.
- Eliminates weighing station tie-ups.
- Models 500 to 200,000 pounds.



A COMPACT RUGGED CRANE SCALE OF HYDRAULIC ACCURACY

- 12", 24" and 30" dials
- Combination kilogram and pound dials
- Tilt face models for high level reading

Protects you against loss by making weighing easy and effortless. Encourages careful checking of materials in and out of plant and materials in process at production stages. Repeat orders from users in all types of industry testify to its usefulness and versatility.

Saves time in:
Receiving
Shipping
Inventory
Processing
Inspection

HYDROWAY SCALES, INC.
20632 W. 8 Mile Road • Detroit 19, Mich.

If you write maker identify as **IEN - 8925**

FOR *Strictly* IMPERSONAL INSPECTION CHOOSE AMES DIAL COMPARATORS

Ames Dial Comparators make the inspection of duplicate parts an extremely simple, rapid and accurate operation. Ames Comparators are strictly impersonal in their accuracy – the results being in no way dependent on the skill or judgment of the operator. The pressure of the gauging members against the work is mechanically determined and therefore uniform.

Check the Ames Dial Comparators shown – one of them may solve a Quality Control problem for you.

Ames No. 1 is an easily adjustable bench model dial comparator that measures objects up to 2" in cross section. This comparator is designated *Ames No. 1W* when equipped with a dead-weight and contact to ASTM specifications for measuring resilient materials.

Ames No. 2 is a compact bench model dial comparator for measuring sheet metal, glass, hard rubber. *Ames No. 2W* is similar, but is furnished with dead-weights and contacts to ASTM specifications for checking textiles, plastics, sheet rubber, etc.

Ames No. 13 features flat-ground, cast-iron base of ample size for using V-blocks and locating fixtures. The No. 13 can be fitted with a fine adjustment for close setting. Adjustable bracket holds any Ames Indicator.

Ames No. 130 is designed especially for inspecting comparatively large and odd-shaped parts. For this reason, the flat-ground steel base, the adjustable indicator support, and the upright column are proportioned to the user's requirements.

Send us your Quality Control job specifications, and we will supply complete details and proposal without obligation.

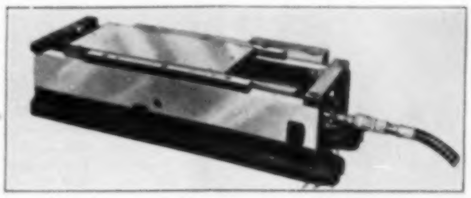
B. C. AMES CO.

Mfgr. of Micrometer Dial Gauges • Micrometer Dial Indicators

If you write maker identify as **IEN - 8928**

INDEXING . . Sliding work table provides 6 in. of pneumatic movement

Source: BELLOWS CO.
230 W. Market St., Akron 9, Ohio



Promotes steady production

Transfeed Work Feeder is a new sliding work table to mount on the table of a machine. It employs an electrically controlled pneumatic cylinder to move the 5¼ by 12-in. table top through a 6-in. maximum stroke. Two work stations can be set up near the two table ends so a machining operation can take place at the same time that a finished piece is being unloaded and replaced with a new one. A single station can be set up for work to be loaded and unloaded and then moved into and out of operating position. The table top is made flat to take work fixtures supplied by the user.

Control centers at the company's built-in Electroaire valve to operate the Bellows BEM-5-60 pneumatic cylinder. Adjustable positive stops can be placed on the table ways to limit the stroke to any amount within the 6-in. maximum. One side of the base is machined square with the table top for locating purposes. Continuing operation is not affected by flooding coolant or chips piled high.

If you write maker identify as **IEN - 8931**

SAWZALL
Wonder-Saw
with 101 Money-Saving uses

Opens toughest crates in a jiffy.

Complete power-unit . . . one-hand control . . . ¾" stroke . . . 6 saw blades for wood, metals, transite, plaster board, plastics . . . in steel carrying case **$78.50**

Rugged, powerful — 2250 strokes per minute — weighs only 6¾ lbs.—14¼" long—life-time lubricated motor and mechanism. See your distributor or write . . .

MILWAUKEE ELECTRIC TOOL CORP.
5360 West State Street, Milwaukee 8, Wisconsin

Milwaukee **SAWZALL**
All-purpose Reciprocating Saw

If you write maker identify as **IEN - 8926**

TATE'S OIL *gets things moving fast!*

Easy does it—and TATE'S OIL easily loosens frozen bolts, nuts, hinges, rusted pins, brake cables, cylinder heads, sticky valves . . . any metal joint that is frozen, gummed, or corroded!

Send NOW for FREE SAMPLE and name of nearest supply house!

PENETRATING OIL—RUST SOLVENT

contains no heavy base oils . . . harmless to hands and finest tools!

Used by machine and repair shops, wire mills, factories, bus and trucking companies, garages—wherever machinery must be kept in operation. Cleans metal—removes rust on chrome . . . metallic shavings from files . . . cosmolene from machinery. Write TODAY for your FREE SAMPLE and full details!

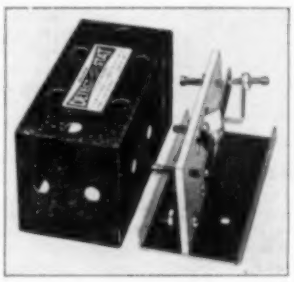
Save time, money, effort—with TATE'S OIL!

TATE CHEMICALS, Inc.
61 MAIN STREET
CAMDEN, NEW YORK

If you write maker identify as **IEN - 8929**

SIGNALING . . Thermostat warns on high and low temperature

Source: RACINE EQUIPMENT & MATERIAL CO.
924-28 State St., Racine, Wis.



Three contact points

Bi-metal element in this new Detect-O-Stat is anchored at its center and extends to both sides to provide two adjustments for circuit closing on rising temperature and one on falling temperature. The two contacts can be connected into signaling circuits for preliminary and final warning against high temperature such as that from a fire. A single circuit connects to the low temperature side to warn against the danger of freezing. The panel mounted element and its connectors are enclosed in a perforated metal housing, measuring 3¼ by 1⅝ by 1¾ inches.

Overall range is 10 to 200 deg. F. Adjusting screws provide for setting at desired intermediate points. The assembly is intended for installation in a plant or office on about 15 ft. spacing to protect against fire in connection with warning devices that can be specified or supplied by the user.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as **IEN - 8932**

CASTELL PUSH BUTTON LOCKTITE

the perfectly balanced holder
(black or colored)

An indispensable drawing tool for professional men everywhere — because LOCKTITE holds lead in bulldog grip, prevents it sliding back into holder. Reduces smearing and smudging, because your fingers never touch the graphite, except when refilling. Order from your Dealer today.

No. 9030
CASTELL Refill IMPORTED
Master Degree Leads
7B to 9H

Reproduces more clean, sharp blueprints than any other lead.

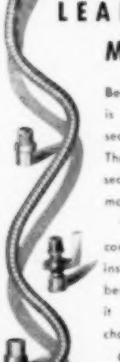
The same wonderful imported leads that you get in the CASTELL wood pencil. Usable in all standard holders. Also available in red, blue, green, yellow, carmine, orange, white and silver.

A.W. FABER-CASTELL
PENCIL COMPANY, INC. NEWARK N.J.

CASTELL the drawing pencil with the Master Degrees

If you write maker identify as **IEN - 8927**

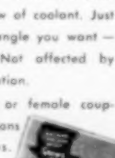
"Sealflex"
LEAK-PROOF FLEXIBLE METALLIC TUBING



Bends To Hold Any Position — "Sealflex" Tubing is tension-wound in such a way as to completely seal itself to carry liquids, cutting oils or solvents. The outer wind of steel is curbed on the inside to seal between the winds of tension coil . . . the more you bend it, the tighter the seal!

"Sealflex" is particularly adapted for use on constantly moving machine parts — such as a lathe installation for delivery of a flow of coolant. Just bend "Sealflex" tubing to the angle you want — it will stay without support. Not affected by change of flow by machine vibration.

Can be provided with male or female couplings, nozzles, stopcocks and unions or to customers' specifications. Available in standard lengths in ⅛, ¼, ⅜, ½ and ¾" I.D. Write for bulletins and prices.



VERMONT *Flexible* TUBING CO.
Lyndonville, Vermont, U.S.A.

If you write maker identify as **IEN - 8930**

HALO *Face Shield*

light as a halo!

- NEW patented visor position hinge locks visor in "raised" or "working" position.
- Full protection from flying particles, chemicals, splashes, sparks, etc.
- Rugged and sturdy yet lightweight.
- Visors available in 4, 6 and 8 inch depths and .020, .040 and .060 thickness.
- 3 Models of headgear — Large spark protector, small spark protector and no spark protector.

Write for LITERATURE and PRICES.

UNITED STATES SAFETY SERVICE CO.
KANSAS CITY 6, MISSOURI · BRANCHES IN PRINCIPAL INDUSTRIAL CITIES
PARMELEE, LTD

If you write maker identify as **IEN - 8933**

Save Space-Save Time

CURTIS TYPE "CDM" BLOCKS

TYPE:
Factory assembled. Your choice of 1 to 50 terminals.

RATED:
750 Volts between terminals of opposite polarity and to ground. 30 Amps. (Conservative).

MARKER:
White marker strip for circuit identification.

Write for Bulletin DS-116. For quick reference consult our condensed catalog in the McGraw-Hill Electrical Catalog for Production Engineers.

CURTIS DEVELOPMENT & MFG. CO.
3214 NORTH 33rd STREET • MILWAUKEE 16, WISCONSIN

If you write maker identify as IEN - 8934

Steel Strapping Dispenser

New Acme Steel tool saves time and effort in packing and shipping

This new Acme Steel E-KO Dispenser can hold and cut to length two coils of heavy duty steel strapping at the same time.

One easy downstroke of the 30" hand lever cuts any two-coil combination of ⅝", 1¼" or 2" strapping. Efficient shear mechanism features high grade tool steel blades for long service. V-belt feed control minimizes strap over-run.

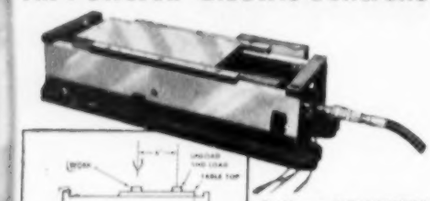
If you use flat steel strapping to reinforce large shipping containers, to bundle heavy units together, or to brace carload shipments . . . this dispenser can help you. Call the Acme Steel service office nearest you or write Acme Steel Products Division, Dept. IEN-82.

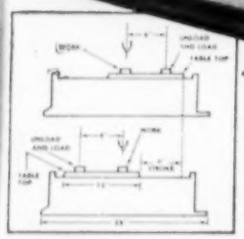
ACME STEEL

ACME STEEL COMPANY
2840 Archer Avenue, Chicago 8, Illinois

If you write maker identify as IEN - 8935

2 POSITION WORK FEEDER
Air Powered–Electric Controlled





Bellows TRANSFEED cuts down on idle machine time — permits loading and unloading at one station while work is done at the second station. 6" positioning stroke with adjustable positive stops for accurate positioning. Powered by The Bellows Air Motor. Complete packaged unit with built-in valves and controls. Can be readily synchronized to operate automatically with machine elements.

WRITE FOR LITERATURE — DEPT. IEN 852-2

The Bellows Co.
ESTABLISHED
AKRON 9, OHIO

If you write maker identify as IEN - 8936

Don't Handcuff That Engine!

STOP Costly Cylinder Wear with the UNIVERSAL TOP OILER

- Reduces Valve and Ring Failures
- Lowers Fuel Octane Requirements
- Reduces Oil and Gas Consumption
- Frees Sticking Valves
- Increases Payload Power

The Universal Top Oiler assures constant, uniform top cylinder lubrication on all types of internal combustion engines by metering vaporized top oil through the intake manifold. When used with an approved upper-cylinder lubricant, it neutralizes corrosive acids, stops carbon and gum formation, prevents dryness in the hottest, hardest part of the engine. Easy to install. List price: $8.95.

Provides maximum benefit when used continuously with Universal Top-Oil. Write for full details.

Gentlemen:
Please send complete information on the UNIVERSAL TOP OILER and the new Universal Top-Oil.
Name _____
Address _____
City _____

UNIVERSAL LUBRICATING SYSTEMS, INC.
785 ALLEGHENY AVENUE • OAKMONT, PA.

If you write maker identify as IEN - 8937

INSULATING . . Teflon plastic tape for service in high temperatures

Source: MINNESOTA MINING & MFG. CO.
902 Fauquier St., St. Paul 6, Minn.

3, 5, 10 and 15 mils

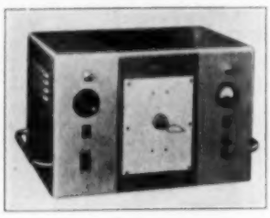
Teflon resin is employed in a new Type H-PTF electric insulating tape. It is supplied in flexible, stretchable form and is fused into a unit mass by application of heat after it has been wound in place. It is designed for Class H insulation on conductors, coils, condensers, transformer's involving high frequency voltage and temperature.

Dielectric strength after fusing is 1,000 volts per mil. Moisture vapor transmission is 0.1 gm. per 100 sq. in. over a period of 24 hours. The tape is particularly suited for use in completely closed motors and generators where it is required to operate in the presence of ozone caused by arcing brushes. It is available for color coding. Small wires insulated with the film can be fused at 650 deg. F. in about 20 min. or at 1,000 deg. F. in 15 seconds. Rolls measuring 36 yd. in length are available in ¼ to 6 in. in width.

If you write maker identify as IEN - 8938

HEATING . . Induction equipment to anneal, harden, braze and solder

Source: LEWIS MACHINE CO.
890-94 Newcomb St., Dept. KP, St. Paul 6, Minn.



The coil is copper tube

Heat output is 1,500 watts at 400 kc. for this new Lewis-1500 induction heating equipment. Operation is on a 220-volt 60 cycle single phase ac. input. Overall dimensions are 30½ by 18 by 19 inches. Weight is 350 pounds.

Output is supplied to a pair of terminals at the front of the machine where a coil of suitable size and shape is applied for a given piece of work. Operation is initiated by presisng a push button. Heating interval can be set at any point to a maximum of 60 seconds at an adjustable timer.

The equipment is protected against electrical damage and any possibility of injury to the worker. No operator skill is required following the initial set up.

Identify as IEN - 8939

Remington Rand has developed a portable reader known as the Griscombe to read both 16 and 35-mm. microfilm at any location. The film is viewed on a 14 by 14-in. screen that folds into a carrying case. It also will project by means of a mirror on a colored wall or screen. The unit weighs 17 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

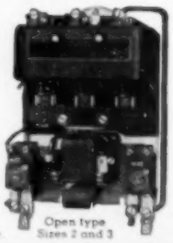
If you write maker identify as IEN - 8940

NEW CLARK Type "CY"

AC MAGNETIC MOTOR STARTERS *now available in* **EXPLOSION RESISTING ENCLOSURES**

The sensational new CLARK Type "CY" motor starters are offered in a wide variety of types and enclosures for use in such industrial atmospheres as hazardous gas, dust or excessive humidity. Illustrated above, is the NEMA Type 7 Cast Iron Explosion Resisting Enclosure for conditions where such special protection is required.

CLARK Type "CY" starters, sizes 2 and 3, have an entirely new arc-quenching principle which greatly increases contact life, by a constant rotation of the arc on contact surfaces.

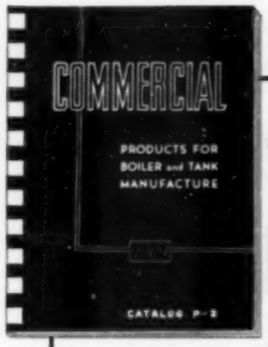


Open type Sizes 2 and 3

Write for descriptive literature

THE CLARK CONTROLLER CO.
ENGINEERED ELECTRICAL CONTROL . . 1146 EAST 152ND STREET, CLEVELAND 10, OHIO

If you write maker identify as IEN - 8941



TANK HEAD *Catalog by* "COMMERCIAL"

Ready for You NOW!

WRITE FOR IT

THE COMMERCIAL SHEARING AND STAMPING CO.
P. O. BOX 719 YOUNGSTOWN 1, OHIO

If you write maker identify as IEN - 8942

CAN SOLVE YOUR NAMEPLATE PROBLEMS!

FREE!

FIRM: View-lex, Inc.
PRODUCT: Lite-O-Stat
PROBLEM: To eliminate breakage caused by molding instructions into plastic shell of Lite-O-Stat, yet retain legibility, neat appearance at low cost.
SOLUTION: Meyercord nameplate Decals eliminated *all* breakage—saved 48% loss of plastic shells, provided *more legible* instructions and neater appearance at the lowest possible cost.

Write today for complete Meyercord nameplate manual! Address Dept. 24.

Send Us YOUR Nameplate Problem

THE MEYERCORD CO., CHICAGO 44, ILLINOIS

If you write maker identify as IEN - 8943

SEE FOR YOURSELF—Next time try a FORT WORTH TRANSCO QD SHEAVE

FORT WORTH WAREHOUSES MEAN BETTER V-DRIVE SERVICE

You will receive the best in service, sheaves, and V-belts when you buy a Fort Worth-Transco V-drive.

Two manufacturing plants and a large foundry, designed to make sheaves, assure volume production even in periods of short supply. Factory warehouses in most large industrial centers supplemented by numerous stocking distributors provide quick delivery of stock sizes.

We will be pleased to advise you the name of your nearest stocking distributor.

"QD" HUB ALSO FITS NEW FORT WORTH "QD" Roller Chain Sprocket

Write for descriptive catalogs on "QD" Sprockets and Sheaves, and they will be sent to you immediately.

FORT WORTH STEEL AND MACHINERY CO
Dept. 29, 3600 McCart St., Fort Worth, Texas

FORT WORTH PRODUCTS
ROLLER CHAIN SPROCKETS
SCREW CONVEYORS and ACCESSORIES
SCREW ELEVATORS
INDUSTRIAL FANS

If you write maker identify as IEN - 8944

TANK SETTLES . . . PIPE WALKS . . . BREAK AVOIDED WITH PENFLEX

Tank settlement . . . thermal expansion and contraction caused misalignment of pipe and the consequent breakage of rigid pipe connections on large oil storage tanks.

Today, this large New England storage center has no trouble with pipe breakage. A length of 12" I.D. four-wall interlocked specially packed Penflex tubing was installed with tight-packed flanges. No amount of settling of the tank or thermal expansion causes breakage of connections. The easy flexing Penflex "walks" with the tank . . . yet maintains a tight leak-proof connection at all times. Leakage has been eliminated . . . fire hazard reduced.

Let Penflex engineers help you on flexible tubing application problems. Write for "Flexinoprinting," a valuable production aid.

Pennsylvania Flexible Metallic Tubing Company, Inc., 7200 Powers Lane, Phila. 42, Pa.
Branch Sales Offices: Boston • New York • Chicago • Houston • Cleveland • Los Angeles

enflex

HEART OF INDUSTRY'S LIFE LINES

If you write maker identify as IEN - 8945

is YOUR cleaning equipment equal to the JOB?

Take a look at your own cleaning program! Are you trying to do a 1952 cleaning job with 1908 model equipment?

Modern, cost-reducing cleaning methods call for modern equipment. And, that's where Tornado cleaning is proving itself in thousands of plants, institutions and commercial buildings.

The powerful, rugged Tornado sucks air in excess of 300 m.p.h.—picks up scrubbing solutions and liquids just as easily as dirt and metal chips.

You'll find Tornado always equal to your cleaning work whether it be regular wet or dry floor cleaning, overhead work in hard to reach spots, cleaning lint from electric motors and equipment or blowing dirt and debris from aisles and under stationary seats and equipment. Write for bulletin 600.

From liquids to metal chips, Tornado pickup gets them all!

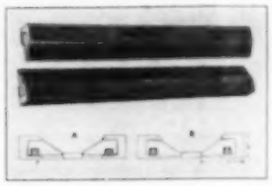
The removable blower cleans machinery and motors.

BREUER ELECTRIC MFG. CO.
5108 NORTH RAVENSWOOD AVENUE • CHICAGO 40, ILLINOIS

If you write maker identify as IEN - 8947

CLAMP . . Hold down jaws to secure work on a machine table

Source: READY TOOL CO.
554 Ironistan Ave., Bridgeport 5, Conn.



$9 to $18 per pair

The clamp fingers in this new hold-down assembly are spring supported and mounted in U-shaped channels. Their back faces ride against angled faces in the channels so the work gripping edge is forced downward when clamping pressure is applied. This action holds a work piece down securely against a table so it will not slip while being machined.

Three sizes measure 4, 8 and 12 in. in length by 1 in. in width and ½ in. in height. The material is hardened steel.

If you write maker identify as IEN - 8948

TRANSFORMER . . Constant watts unit to operate a mercury vapor lamp

Source: SOLA ELECTRIC CO.
4631-35 W. 16th St., Chicago 50, Ill.

Measures 12 by 7½ inches

Weather proof cylindrical housing encloses the company's new No. 77001 constant watts transformer for outdoor installation on a wall, a pole base or top. The lower portion of the housing encloses the capacitors employed in the assembly. Operating range is between 100 and 130 volts or 200 and 260 volts on the primary side.

Lamp starting is positive within the standard range. Line and lamp current surge are minimized at the instant of starting. There is no need for time delay components. The transformer applies for individual operation of a 400 watt Type EH-1 or Type JH-1 mercury vapor lamp.

If you write maker identify as IEN - 8949

SEALING . . Pump packing particularly to seal petroleum products

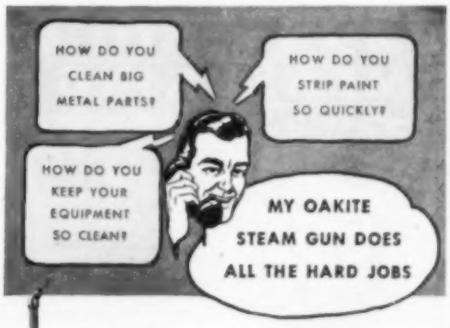
Source: SEA-RO PACKING CO.
129 Wood-Ridge Ave., Wood-Ridge, N. J.

Tested on tanker pumps

Shredded metal, asbestos and graphite for lubrication are treated with a binder that resists attack by petroleum products and then wrapped in a cotton casing to make this new Sav-On pump packing. It is available as No. 701 in spiral form and No. 705 in ring form. The former is in sizes from ¼ to 1¼ in. in square section in 1/16-in. steps. The rings are made to specification. Application is in rotating and reciprocating pump packing boxes at temperature to 550 deg. and pressure to 1,000 pounds.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8950



This man knows the best way to clean metal parts that are too large for tanks or washing machines . . . He knows the best way to strip paint from large surfaces.

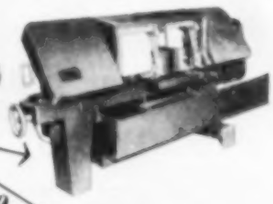
His Oakite Steam Gun will clean large equipment like die casting machines, wire drawing machines, blooming mill rollers, brass reduction machines, mullers and grinders, drill presses, stamping machines, etc. . . . It will do practically every cleaning job that's too big or too difficult for ordinary methods.

FREE For your copy of "*Time saved with Oakite steam-detergent cleaning*" write to Oakite Products, Inc., 16A Rector St., New York 6, N. Y.

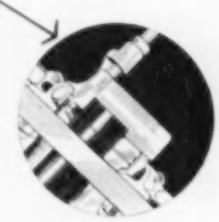
OAKITE SPECIALIZED INDUSTRIAL CLEANING MATERIALS • METHODS • SERVICE

If you write maker identify as IEN - 8951

you can see the CUTTING ACTION



Kalamazoo **METAL CUTTING BAND SAW**



Yes . . . you can look directly down into the cut as it's being made, giving you instant warning of any need for adjustment. And blade wear and dullness can be quickly detected, too. Result? Faster, cleaner precision cutting, longer blade life.

Investigate the many other exclusive Kalamazoo Band Saw features that give you lowest cost metal cutting. Three sizes, all available with coolant equipment and casters.

MACHINE TOOL DIVISION

***Kalamazoo* TANK and SILO CO.**
811 HARRISON ST., KALAMAZOO, MICHIGAN

If you write maker identify as IEN - 8952

Assure a Free-Cutting Wheel IN GRINDING OPERATIONS WITH Delpark COOLANT FILTERS

Attrition in grinding operations is reduced to a minimum by Delpark Full-Flowing, Self-Cleaning Coolant Filters. Complete and continuous filtration of the coolant as it comes from the work removes heat bearing solids, prevents loading of the wheel. A free-cutting wheel assures greater accuracy, speeds production with less wheel dressing, longer wheel life. Two to several hundred gallons per minute capacities.

- Fully automatic • No down time for cleaning reservoir • Extends coolant life • Uniform coolant temperature

Delpark
INDUSTRIAL FILTRATION
Backed by 30 Years Experience in Industrial Filtration

Write for more complete information

INDUSTRIAL FILTRATION COMPANY
5111 Industrial Avenue • Lebanon, Indiana

If you write maker identify as IEN - 8953

Speed movement of goods, save personnel time with safe, push-button operated Whiting Cross-Over Bridges. Three types to serve terminal needs: Overhead-Rise, Roll-Away or Ground-Level (as pictured) for faster truck movement across tracks. Ruggedly built for lasting service and low maintenance! Write for Bulletin MS-C-400.

WHITING CORPORATION
15629 Lathrop Avenue, Harvey, Illinois

WHITING
CROSS-OVER
Bridges

If you write maker identify as IEN - 8954

Yes! THRIFTMASTER makes ALL TYPES of DRILLHEADS

Universal Joint Drillhead . . . Full Ball or Bronze Bearing Construction Standard and Heavy Duty From ½" Minimum Centers up. Capacities to 1" in Steel.

Gear Driven Electric Type Adjustable Drill Head . . . Enclosed, Full Ball Bearing Construction.

Special Fixed Center Drillhead . . . Full Ball Bearing Construction.

- We Stock or Can Build the Right Drillhead for Your Job.
- Write for THRIFTMASTER Complete Catalog or phone for a rush, on-the-spot, quote.

Subsidiary of Thomson Industries, Inc.

THRIFTMASTER Products Corporation

1008 N. Plum Street
Lancaster, Penna.

also makers of
DORMAN AUTOMATIC REVERSE TAPPERS

If you write maker identify as IEN - 8955

STORAGE RACKS

Now, you can increase your storage space 200% to 600%, with Barrett steel Sectional Racks—use *all floor to ceiling area*. For barrels, drums, open stock, boxes, skids, etc. Stock always accessible for fast handling—quick inventory—no rehandling. Compact Barrett Racks cut handling costs 25% to 65%—utilize overhead space—frequently eliminate need for extra storage buildings.

Standard designs—many features—quickly installed—inexpensive. Write for prices. Ask for Bulletin 5221.

BARRETT-CRAVENS COMPANY
4641 S. Western Blvd., Chicago 9, Ill.
Representatives in All Principal Cities
Canadian Licensee: S. A. Armstrong, Ltd., Toronto

BARRETT

One man does more than 3 or 4...with a Barrett

If you write maker identify as IEN - 8956

Practical Lab Men Like Their Despatch OVENS

For development work and new product testing, Minn. Mining technicians approve the wide temperature range . . . variety of raw materials handled . . . capacity for large samples.

- Air velocity control
- Guaranteed heat elements —2700 to 12,000 Watts
- Precision indicating control
- Six models in wide range of capacities
- Accurate—speedy—rugged

Manufacturers of Ovens for all purposes

Minnesota Mining & Manufacturing Company uses Despatch "V" Ovens in research and control of "3M" products and applications. Users of Despatch Ovens from its earliest days, this well-known company now has scores of them in its various departments. For information on how Despatch can be put to work on your laboratory and production problems, *write for Bulletin No. 106.*

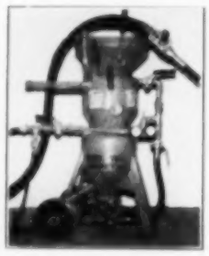
DESPATCH OVEN CO.

337 Despatch Building
Minneapolis 14, Minnesota

If you write maker identify as IEN - 8957

CONSTRUCTION . . Pneumatic equipment to gun concrete and to sand blast

Source: AIR PLACEMENT EQUIPMENT CO.
1007-12 W. 24th St., Kansas City 8, Mo.



$975 complete

Bondactor 750 is a new assembly in the company's line of pneumatic concrete gunning and sand blasting equipment. It has production capacity from ½ to ¾ cu. yd. per hr. or 3 to 4 sack batches of aggregate. It operates on 80 to 105 cfm. of compressed air. Its three-compartment construction permits continuous operation of the concrete gun or sand blast nozzle.

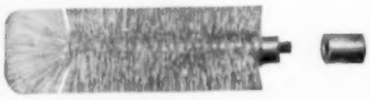
Dry sand and cement are filled in measured batches into the upper hopper and are "locked" through the central chamber into the bottom delivery chamber. From here they ride through the delivery hose to the gun where separate air and water connections are introduced to make the correct mix for delivery. Air pressure in the machine itself is the moving force for the dry materials.

The equipment is suited for surface application of concrete, water proofing and refractory materials and for general sand blasting. It is supplied with a concrete gun, a sand blast nozzle, three 50-ft. lengths of hose and one 25-ft. length, all equipped with fittings, to handle the dry materials, to connect to the air source and to deliver air and water to the gun.

If you write maker identify as IEN - 8958

BRUSH . . Nylon bristle head to clean sanitary pipe and fittings

Source: BRAUN BRUSH CO.
8837 78th St., Woodhaven 21, N. Y.



Six diameters 1 to 4 inches

Aluminum core in this new No. S565 brush is filled with white or black nylon bristles wound in grooves with stainless steel wire. The core is terminated in a threaded end to take a ½-20 SAE coupling or a ¼ in. pipe thread coupling as specified. A handle for hand operation also is available. Application is by power driven equipment or by hand with rotation in both directions to provide thorough cleaning action.

The brush will clean the inside surfaces of ells, tees and similar sanitary fittings. It can be inserted into a hand bottle washer either of single or three brush type. It will clean the interior of a pipe line to meet any sanitary requirements.

Identify as IEN - 8959

Like the doughnut, the hole already is in place in metal parts made from cold-drawn mechanical tubing. Babcock & Wilcox have published new Bulletin TB-339 to show you what can be done along this line.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8960

PRECISION MEASURING

SCHERR MICROMETERS

No READINGS AT NO EXTRA COST

$9.75

Drop-forged steel frame easy to read. "No Glare" graduations. Guaranteed accuracy and unsurpassed workmanship.

For greater savings in dollars and better satisfaction, use "Scherr Tools".

Complete stock. All sizes — MM. or Inch.

MAUSER VERNIER CALIPER

$14.75

For inside - outside and depth measurements in 1/1000, 1/128, 1/10mm and 1/20mm.

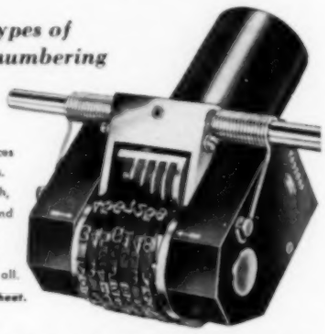
If not available from your dealer, order direct.
WRITE FOR ILLUSTRATED CATALOG

GEORGE SCHERR CO., Inc.
COMPLETE LINE OF PRECISION INSTRUMENTS
198-C LAFAYETTE ST. • NEW YORK 12, N. Y.

If you write maker identify as IEN - 8961

FORCE automatic indenting head

For all types of metal numbering



Its clean-cut engraving produces sharp impressions. Combines strength, precision. 6, 7 and 8 wheel models. Consecutive and repeat action on all. **Send for Data Sheet.**

THREE QUARTERS OF A CENTURY'S SERVICE.

WM. A. FORCE & COMPANY, INCORPORATED
316 NICHOLS AVENUE, BROOKLYN 8, N. Y.

If you write maker identify as IEN - 8962

Lepel presents

A Low Cost PORTABLE HIGH FREQUENCY Induction HEATING UNIT

This versatile unit is priced so low that every shop may now take advantage of modern induction heating techniques to improve quality and to increase production. Its simplicity of operation eliminates the need for skilled personnel.

The Lepel Model 2 KW will meet the requirements of machine shops, toolrooms, research laboratories and educational institutions. It is especially suitable for hardening, brazing and soldering small parts of either ferrous or non-ferrous metals.

Complete unit with line connection and load coil **$870.** f. o. b. factory

- SMALL AND COMPACT — Conveniently operated on bench or table—no mounting necessary.
- ECONOMICAL OPERATION — No special power installation required. Operates on 110 volts, 60 or 50 cycle line at unity power factor.
- FULLY GUARANTEED — Guaranteed for continuous duty cycle and stated performance.

WILL HEAT TO 1500° F.

¼" steel rod 1" length in approx.	1 second
½" " " " " "	3 seconds
¾" " " " " "	15 seconds
1" " " " " "	60 seconds

Will melt 4 ounces of brass or steel in 4 minutes. Equally well suited for heating of non-ferrous metals.

Write for Lepel Catalog IN-8

BRAZING

Permits widest choice of silver or copper brazing alloys from lowest to highest melting points. Ideal for brazing carbide tips.

HARDENING

Heat localized exactly where wanted at desired temperature. Ideal for gears, cams, bearing surfaces, cutting tools and other areas that are subject to wear.

SOLDERING

Speedily and neatly performs intricate soldering applications with or without the use of pre-formed rings.

ANNEALING

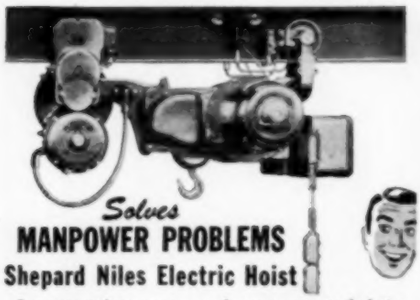
Ideal for annealing, stress-relieving, normalizing or pre-heating selected areas.

MELTING

Readily melts quantities of ferrous and non-ferrous metals in sulfur graphite or ceramic crucibles.

LEPEL HIGH FREQUENCY LABORATORIES, INC.
55th STREET and 37th AVENUE, WOODSIDE 77, NEW YORK CITY, N. Y.

If you write maker identify as IEN - 8964



Solves
MANPOWER PROBLEMS
Shepard Niles Electric Hoist

One man replaces many — and moves more goods faster — with a Shepard Niles Electric Hoist. These sturdy hoists free valuable floor space, put waste ceiling area to work, enable an older man, woman or youth to handle the heaviest loads with ease.

Learn how a Shepard Niles Hoist — in light, medium or heavy capacity — fits into your production picture. Call in the Shepard Niles representative — he'll make sure you get the right capacity and controls for your handling job. Write today for Bulletins 127 and 171 and ask to have a representative stop by.

- HOISTS Operated from Cab, Floor or Pulpit.
- CRANES Overhead: Top Running, Inner Running, Under Running, Floor or Cab Operated.

Specialists in loads through-the-air since 1903.

SHEPARD NILES
CRANE AND HOIST CORPORATION
1015 SCHUYLER AVENUE • MONTOUR FALLS, N. Y.

If you write maker identify as IEN - 8965

it's OK

...let'er go!

cut costs on your toughest jobs with OK SHEAR BLADES and SLITTER KNIVES

Heat Treating does it. Gives them maximum toughness and keen edge holding qualities. You get longer runs between re-grindings.

OK Battle Axe Shear Blades for shearing up to and including ¼" mild steel or equivalent.

OK Dura-Chrome Shear Blades for shearing hot or cold plate steel up to 1¼" or equivalent.

OK Standard Shear Blades for any type shearing when only short runs or little shearing is done; also for heavy plate shearing.

OK Gang Slitters for slitting steel, precision ground to ± .0002 tolerances.

OK Rotary Shears and Cutters for trimming sheet steel and light plates.

Write today giving quantity and sizes.

WITH OHIO GREEN

THE OHIO KNIFE CO.
CINCINNATI 23, OHIO

If you write maker identify as IEN - 8967

PUMP . . Hand operated unit to dispense liquid from containers

Source: TOKHEIM OIL TANK & PUMP CO.
1654 Wabash St., Fort Wayne 1, Ind.

About $28

Leather or rubber can be specified for the diaphragm in the company's double acting single diaphragm pump, previously described IEN-5349-51. The choice of materials suits the pump for a wide variety of corrosive and non-corrosive liquids. The company has prepared a list with its recommendations for given liquids.

The diaphragm is operated to act in both forward and reverse direction by means of a hand lever. It is self priming. Application is in a 1½ or 2-in. bung opening in a drum or tank for which purpose the pump is equipped with a bung adapter and a clamping screw that can be tightened on the suction pipe by hand.

If you write maker identify as IEN - 8968

FURNITURE . . Metal equipment for application in offices and plant

Source: ROYAL METAL MFG. CO.
173-77 N. Michigan Ave., Chicago 1, Ill.

Illustrated catalog presents details

The company announces a new line of steel storage shelving, counters, storage cabinets, machine stands, as an addition to its previously developed lines of steel furniture. The new equipment includes open and closed types of shelving, box inserts, sectional steel counters, office record storage equipment and tab card cabinets. Benches, desks and machine stands are all designed for heavy duty service.

Construction is featured by minimized requirement for bolting, simple assembly and provision for adjustment without requiring tools. The units are available in standard packages to assist in planning and purchasing.

If you write maker identify as IEN - 8969

HAMMER . . Hand chipping tool with plastic handle for use by welders

Source: QUALITY TOOLS CORP.
100 Oak St., New Wilmington, Pa.

Weight is 1 lb. for this new welder's hammer with its forged alloy steel head, welded steel shank and amber colored plastic handle and fluted fitting grip. The handle will not come loose. The plastic material will not burn. Weight is 1 pound. Two chipping edges stand at right angles with each other.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8970

RIGHT AT THE SOURCE OF WASTE

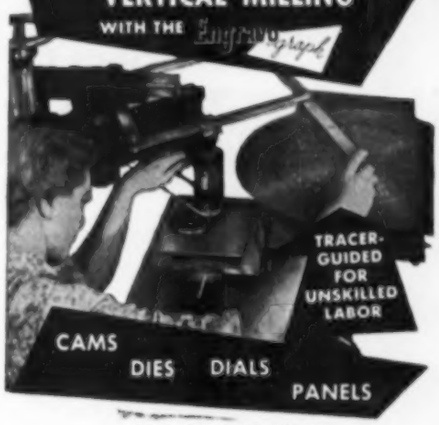
For this 15 hp motor, power losses are corrected where it does the most good—*at the source*. A 4 kvar Sprague Power Factor Correction Capacitor across the terminals reduced reactive circuit current flow through transformers and wiring to a bare minimum . . . slashed power bills noticeably.

Sprague Unit-Cell Capacitors make it unnecessary to buy even one kvar more than you need. Write for the Sprague free guide of cost-saving suggestions, No. 50B.

SPRAGUE
PIONEERS IN ELECTRIC AND ELECTRONIC DEVELOPMENT
SPRAGUE ELECTRIC COMPANY
165 Marshall St., North Adams, Mass.

If you write maker identify as IEN - 8971

ENGRAVING • PROFILING
VERTICAL MILLING
WITH THE Engravograph



Write for literature describing:
1. Heavy Duty Engravograph (illustrated) Catalog H-23
2. Portable Engravograph—Catalog IM-23

NEW HERMES, Inc. 13-19 University Place NEW YORK 3, N. Y.
CANADA: 359 St. James St., Montreal
World's Largest Manufacturer of Portable Engraving Machines

If you write maker identify as IEN - 8972

WAB ACCESSORIES

FOR LONG LIFE . . .
DEPENDABLE . . .
LOW COST SERVICE

WATER-COOLED AFTERCOOLERS . . . removes moisture—delivers dry air to machines. The Westinghouse Type "W" Aftercooler is furnished in sizes for 1½-10 HP compressors.

"SAVAIR" ® COCKS . . . two-way, three-way, and four-way . . . highest grade, key type cocks. Available in sizes ranging from ¼" to 2".

PRESSURE REDUCING VALVES . . . made for long life and dependable service. Supplied in varying capacities and for pressures ranging from 5 to 250 pounds.

INDUSTRIAL PRODUCTS DIVISION WESTINGHOUSE AIR BRAKE COMPANY WILMERDING, PENNA.

Factory Branch: EMERYVILLE, CALIF. Distributors throughout the United States . . . Consult your Classified Directory. Distributed in Canada by: Canadian Westinghouse Co., Ltd., Hamilton, Ontario.

If you write maker identify as IEN - 8973

SO MANY JOBS DONE SO EASILY and so WELL

BURRING
FILING
SANDING
GRINDING
POLISHING
WIRE BRUSHING

SERIES "M" KELLERFLEX
Flexible Shaft Machines

Most versatile machine in any shop, KELLERFLEX is an investment in increased efficiency. In the shop it means jobs done faster and better with minimum fatigue. Operator has 16 speeds at his fingertips, and this means greater output with higher quality and reduced costs. High speed attachments increase the number of speeds to 32. Other attachments are available to meet practically every requirement.
For complete information, call the P & W Branch Office nearest you — or write on your company letterhead for Bulletin No. 321-2.

PRATT & WHITNEY
DIVISION NILES-BEMENT-POND COMPANY
WEST HARTFORD 1, CONN., U. S. A.

If you write maker identify as IEN - 8974

FIVE reasons why it's "SAFETY" FIRST!

Blue Devil SOCKET SCREW PRODUCTS

for all socket screw products

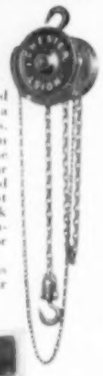
- ★ safer to use
- ★ easier to use
- ★ better wrenching
- ★ higher quality
- ★ complete selection

SOLD ONLY BY AUTHORIZED INDUSTRIAL DISTRIBUTORS

SAFETY SOCKET SCREW COMPANY
6508 Avondale Avenue, Chicago 31, Illinois

If you write maker identify as IEN - 8975

NEED "Special" CHAIN HOISTS? Call on CHESTER



In addition to a complete line of Spur-Geared and Differential Chain Hoists, Chester is in a position to move fast on orders for special types.

For example, we can furnish Low Headroom Trolley Hoists for buildings where no other type of hoist can be used. We can also adapt our standard Spur-Geared Hoists to the Extended Hand Wheel Type—ideal for handling hot materials from a safe distance, for moving work whose surface must be protected against scratching by the hand chain, or for large, flat or bulky loads.

Why not ask your distributor, or write us today, for the Chester catalog, and tell us your "special" problems?

Extended Hand Wheel Type

Low Headroom Trolley Hoist

CHESTER HOIST DIVISION
The National Screw & Mfg. Co.
Lisbon, Ohio

If you write maker identify as IEN - 8976

BRING US YOUR HEADER PROBLEMS!

SIMPLE OR COMPLEX — We make them all, ranging from 2- and 5-electrode crystal holder bases and standard octal headers, to 14- and 18-terminal headers for sealed Transformer and Relay applications—with a wide selection of styles and sizes in our series of basic designs.

SPECIAL DESIGNS — We also manufacture Sealed Headers and Terminals to meet special requirements, and will be glad to quote upon receiving your specifications.

COMPLETE ASSEMBLIES — We have facilities for handling the complete assembly of many units—including evacuating and pressure-filled enclosures.

NEW CATALOG — Just off the press, a new Hermaseal catalog, with descriptions and specifications of some of our standard Sealed Headers and Terminals. Write for your copy today!

Hermaseal

THE HERMASEAL CO., Inc.
Elkhart 25, Ind.aaa

If you write maker identify as IEN - 8977

SPREADING . . Roll type machine coats rigid or flexible sheet, to 60 in.

Source: JOHN WALDRON CORP.
P. O. Box 791-A, New Brunswick, N. J.

$900 and up

Ezro Coater is a new general purpose roll-type machine that can be assembled to coat one or two sides of a web or sheet, to impregnate flexible sheet materials, to laminate two or more webs. It will apply a paint finish on rigid sheets, glue or veneer boards, adhesives on paper, textiles, film. It will coat sheet materials, impregnate paper or textiles and also can be employed to apply heat-sealing adhesives as required.

The rolls are made of ground steel. They are chromium plated or rubber covered and are mounted in anti-friction bearings. The motor and drive assembly are enclosed in the ventilated housing. Sizes in the line will take work from 12 to 60 in. in width. Bulletin 1088 contains schematic diagrams showing roll arrangements.

If you write maker identify as IEN - 8978

GRINDING . . Backstand idler is loaded and released by air cylinder

Source: PORTER-CABLE MACHINE CO.
1712-16 N. Salina St., Dept. PR-7, Syracuse 8, N. Y.

For quick belt change

Model 505 is a new air operated backstand idler that mounts a pulley measuring 8¾ in. in diameter by 6 in. in width for speeds to 10,000 fpm. Compressed air from a shop line passes through an adjustable regulator to apply a required tension in an abrasive belt mounted between the idler and a contact wheel.

The assembly measures 22 by 34½ in. at the floor. It stands 40½ in. in height. Weight is 200 pounds. Companion assembly for wall mounting measures 19 by 30½ by 27 inches. It weighs 215 pounds and is known as Model 510.

Identify as IEN - 8979

What happens when equipment of your manufacture breaks down in service? Does the user have sufficient intimate knowledge of the inner workings to be able to make his own repairs without difficulty? Philco Corporation says it can assure this information if you employ its Technical Writing Department to prepare and publish instruction material that you put in the customer's hands when he first buys your product. Philco has an extensive department for preparation of this type of material. It is ready to handle the work on a contract basis.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8980

RAISE PRESS OUTPUT WITH LITTELL AUTOMATIC ROLL FEEDS

Installed on old or new equipment

Press room output can often be multiplied five times by the simple addition of Littell Automatic Feeds to present equipment. The typical Littell Double Roll Feed shown here grips the stock on both sides of the die to assure maximum traction and feeding power. Stock is easier to start and finish in progressive die work. No hand feeding at either end of the stock. Rack and pinion drive provides the smoothness and the gradual acceleration and deceleration of feed rolls for a truly accurate feed. Standard Littell Automatic Feeds serve all types and sizes of presses, handle all standard widths and thicknesses of stock.

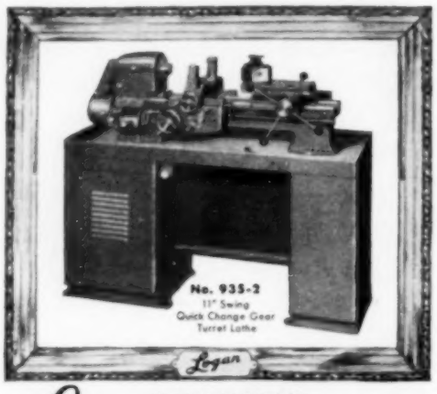
Write for catalog

F. J. LITTELL MACHINE CO.

ROLL FEEDS • DIAL FEEDS • STRAIGHTENING MACHINES • REELS • AIR BLAST VALVES
District Offices: Detroit, Cleveland
4133 N. Ravenswood Ave., Chicago 13, Illinois

WHEN YOU BUY FROM LITTELL . . . YOU PURCHASE A PACKAGE OF SATISFACTION

If you write maker identify as IEN - 8981



Logan LATHES Put Profit in Production

With its 11" swing, 1" collet capacity, and 1-3/8" spindle hole, today's Logan Lathe handles **more** production work, **more profitably** than ever before. Easy to set up. Ball bearing mounted Logan spindle has the sustained accuracy at high speeds to hold precision tolerances. Accurate, durable Logan construction keeps production going at top efficiency, at minimum cost per finished part.

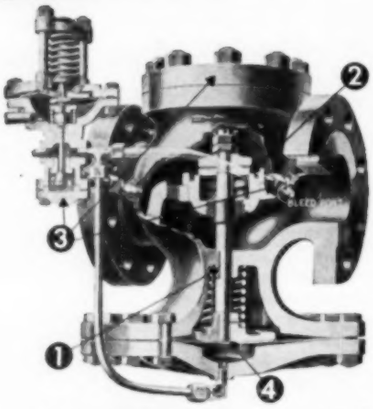
WRITE FOR CATALOG — FULL DETAILS ON SCREW CUTTING AND TURRET LATHES AND SHAPERS

LOGAN ENGINEERING CO.
4901 West Lawrence Avenue, Chicago, 30, Illinois

If you write maker identify as IEN - 8982

Here's Why SPENCE REGULATORS

CUT COSTS . . . REDUCE MAINTENANCE



Thousands of installations throughout the country have proved that Spence Pilot-Operated Regulators provide *dependable, trouble-free* pressure and temperature control year-in, year-out. Here are a few of the many Spence features that save you money . . . help keep *maintenance at a minimum.*

1. PACKLESS CONSTRUCTION of all Spence main valves and most pilots *eliminates the need for closely fitted parts* that may stick or bind due to uneven expansion or foreign matter.

2. DURABLE SECO METAL SEATS AND DISCS resist wiredrawing. More than 20 years of experience with SECO Metal *has failed to produce one case where it has been cut by steam.*

3. EASY TO CLEAN WITHOUT DISMANTLING — The seat and disc of the main valve and pilot can be cleaned and any working part removed *without taking the main valve out of the line.*

4. LONG-LIFE METAL DIAPHRAGMS, under usual conditions, never require replacement. The durable spring in the Spence Regulator operates at low unit stress . . . *out of the path of the steam* or other fluid flowing through the valve.

FREE BULLETIN NO. 4000 gives complete data . . . contains full color, fully illustrated description of the operating cycle of a Spence Regulator.

Spence

SS-104

SPENCE ENGINEERING COMPANY, INC.
WALDEN, NEW YORK

If you write maker identify as IEN - 8984

BAY STATE

Announcement by

Bay State Abrasive Products Co.
Westboro, Massachusetts

Our latest pioneering development, "GRITCLOTH"

AN OPEN MESH SANDING FABRIC
— LASTS 10 TO 15 TIMES AS LONG —

If you write maker identify as IEN - 8985

You can cut Handling Costs with U. S. Royalite Tote Boxes!

From initial lower cost to longer, more efficient service, tote boxes made of tough U. S. Royalite are your best buy in the long run.

Durable U. S. Royalite is highly resistant to impact . . . color-permeated throughout for easy departmental segregation. The unique, seamless design of Royalite tote boxes makes them adaptable to most mechanical conveying systems. Lightweight with hand grips on all four sides, they can be handled easily and efficiently . . . stacked or nested to save space.

Replace worn-out, dented and chipped tote boxes with U. S. Royalite tote boxes. They're made to last indefinitely. Available *now* in any size . . . engineered to speed up small parts handling and cut handling costs!

CHECK LIST OF ADVANTAGES OF U. S. ROYALITE TOTE BOXES

- ✓ Available immediately in any size
- ✓ Tough—will last indefinitely
- ✓ Lightweight
- ✓ Highly resistant to impact, non-splintering
- ✓ Not affected by oils, alkalies, most acids
- ✓ Color-permeated throughout for easy departmental segregation
- ✓ Will stack or nest
- ✓ Adaptable to any type conveying system
- ✓ Non-warping, non-corrosive
- ✓ Waterproof, stainproof, non-magnetic

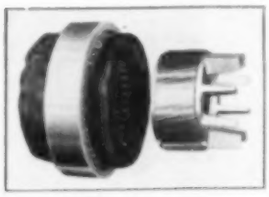
U.S. ROYALITE
TOUGH PLASTIC PRODUCTS

UNITED STATES RUBBER COMPANY
2638 North Pulaski Road, Chicago 39, Illinois

If you write maker identify as IEN - 8987

MOTOR . . Stator assembly and rotor for built in application

Source: REULAND ELECTRIC CO.
Westminster & W. Mission, Alhambra, Calif.



For continuous duty

Wound stator complete with outer ring, insulated coils and with the coil extensions firmly tied down is baked into a solid vibration proof unit after treatment with a special varnish in production of the stator portion of this new skeleton motor. The rotor is pressure cast in a one-piece aluminum unit to include the rotor bars, the end rings and a fan. The two parts are supplied in specified sizes and ratings for a manufacturer to build into his own equipment for electric drive.

If you write maker identify as IEN - 8988

EXTERMINATING . . Liquid to eliminate subterranean termites

Source: FEDERAL CHEMICAL CO.
2703-7 Wiathrop Ave., Indianapolis 5, Ind.

List is $30 per gallon

Arab U-Do-It is a new liquid concentrate initially developed for individual use by home owners. It is available now for general industrial application to protect wood structures against subterranean termites. One gallon of the concentrate mixes with 99 gal. of water and is poured into a prepared trench around the building foundation. This trench is then back filled and the back fill is treated as instructed in the directions accompanying the liquid. On new construction the company recommends saturating the area in excavations for basements or foundations with 1 gal. of the mixture for each 10 square feet. Then, after construction is completed, an additional gallon of the mixture is employed per lineal foot around the foundation walls.

If you write maker identify as IEN - 8989

MARKING . . Lead characters to identify subjects in X-ray work

Source: H. W. KNIGHT & SON INC.
94-98 State St., Seneca Falls, N. Y.

Shows in picture

Three sizes measuring ½, ¾ and 1 in. in height are available in the company's new Condensed Deep Black letters and figures. They have been added to the line previously described IEN-5857-43. Thickness is ¼ inch. The new lead units will withstand long exposure and concentrated rays without fading. They produce a legible design to identify X-ray films.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 8990

Star has 'em
WHEN YOU WANT 'EM!

STAINLESS STEEL FASTENINGS OF ALL TYPES
RIGHT OFF THE SHELF

In-Stock-Service on Small or Large Quantities • Cap Screws • Machine Screws • Sheet Metal and Wood Screws • Set Screws • Nuts, Washers, etc.
Class 3 AN Drilled Fillister Heads
Fast service on special screw machine products.
WRITE, WIRE OR PHONE TODAY
New Catalog just off the press
write for your copy today

Star STAINLESS SCREW CO.
ARmory 4-1240
212 Union Avenue • Paterson 2, N. J.

If you write maker identify as IEN - 8991

MEASURE VISCOSITY IN 20-40 SECONDS

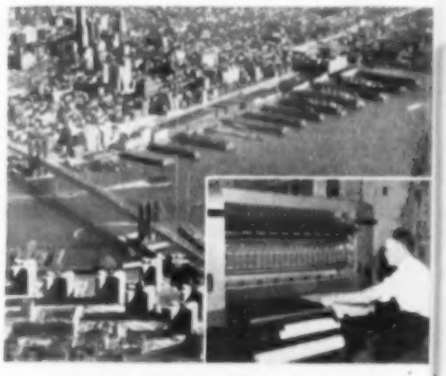
G-E Zahn Viscosimeter for Factory and Laboratory Use

- Easy to Use
- One-piece Construction
- Durable
- Inexpensive—$16.50*

Contact your nearest G-E sales office.
General Electric, Schenectady, N. Y.
*Suggested mfg. retail price.

GENERAL ELECTRIC

If you write maker identify as IEN - 8992



BROOKLYN was "unprintable"

Recently, The Consolidated Edison Company (in New York City) faced this problem: It had to produce a direct-process print from each one of more than ten thousand Brooklyn Underground Record Maps, showing the distribution system of electric service.

But satisfactory prints could not be produced directly from these maps. They were up to 30 years old . . . had been referred to constantly . . . and as a result were soiled, stained, creased, and "dog-eared."

What to do? Retracing was out of the question, since it would take a draftsman from two to three days to trace and check just one of these 17"x 25" drawings.

Kodagraph Autopositive Paper was the speedy, economical solution

With this revolutionary photographic intermediate paper, approximately 40 sharp and clean "duplicate originals" could be turned out in an hour. *Yes, 40 in an hour because* Kodagraph Autopositive Paper produces positive copies directly—without a negative step, without darkroom handling. At the same time, it drops out stains, creases . . . cleans up backgrounds . . . transforms weak detail into dense photographic black lines. Furthermore, Autopositive Paper can be exposed in standard print-making equipment . . . and processed in standard photographic solutions.

Thus, *Consolidated Edison did the job in record time and at minimum cost.*

Learn all the ways you can save with Kodagraph Autopositive Paper—the revolutionary photographic intermediate material which you, or your local blueprinter, can process at low cost. *Write to . . .*

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Kodak

If you write maker identify as IEN - 8994

If you write maker identify as IEN - 8995

LULL side-loading TRAVELOADER ...gives you Straight-Line MATERIALS HANDLING

Straight-line production-methods call for straight-line materials handling if maximum benefits are to be gained. And that's one important way in which Lull Traveloader can step up the efficiency of your operations. One side-loading Traveloader using a straight-line system, can do the work of 2 or 3 conventional machines . . . do it faster and in half the space!

This Bulletin gives you complete information on all the ways in which Lull Traveloader can save you manhours and money. You can't afford to be without this information. Write for your copy . . . TODAY!

LULL MANUFACTURING CO.
362 West 90th Street • Minneapolis 20, Minn.
EXPORT OFFICE: 105 West Fourth St., Cincinnati 2, Ohio
Cable Address: "Reprint"

If you write maker identify as IEN - 8996

SAVE TIME AND MATERIALS

Oil-hardened tool steel tapered pin gages accurate to + 0.0001" - 0.0000" insure dependable sizing and location of holes and slots for machinists, set-up men, tool and die men, inspectors, all who need precise hole measurement.

CONCENTRIC TAPER on lower half of each gage fits holes 0.0012" smaller than standard letter, fraction, and number size drill holes. Makes insertion easier. Permits gaging of odd size holes and slots.

ALL GAGES are 1½ inches long. Sets contain a pair of each size in a plastic case with 4 place decimal equivalents of each size plainly marked.

ALL ITEMS STOCKED FOR IMMEDIATE DELIVERY

THE Hockey GAGE COMPANY
21 STAPLES ST., BRIDGEPORT, CONN.

Quantity
Letter sets @ $45. 52 gages (A-Z)
Fraction Sets @ $30. 60 gages (1/64" to 1/2" steps)
Number Sets @ $40. 120 gages (1 to 60)
Single gages @ $ 1.
Stand alone @ $10.

Please Rush checked items and literature to
company
address
name
title

If you write maker identify as IEN - 8997

TRUCK . . One ton platform unit, engine drive, for utility service

Source: CONSOLIDATED INDUSTRIES INC.
502 Mizville Road, West Cheshire, Conn.

For shops, warehouses, loading docks, depots

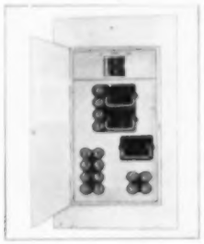
Load area totals 21 sq. ft., on this new engine driven power truck. The engine is mounted in a rectangular enclosure centrally located to provide room on each side to carry long overhanging loads. The operator rides in standing position on a platform. The 3-hp. Briggs & Stratton engine is chain connected to the drive.

Construction includes disc brakes, foot operated accelerator, transmission, steering wheel, 4 by 8 in. pneumatic tires on cast aluminum anti-friction wheels, engine muffler. An adapter is provided with which to tow trailer trucks. The truck frame is made of 3 in. steel channel for heavy duty service. The operator must be in position on the platform before the truck can be moved.

If you write maker identify as IEN - 8998

CIRCUIT BREAKER . . Panel assembly for service entrance and distribution

Source: MURRAY MFG. CORP.
1248-52 Atlantic Ave., Brooklyn 16, N. Y.



Main switch at top

Five combinations are available in this new combination service equipment. The basic unit contains a 100-amp. main magnetic circuit breaker, 60-amp. range fusible pullout, 30-amp. water heater fusible pullout and 12 plug fuse branch circuits. In addition to this basic assembly the four other units include four extra plug fuse branch circuits, 8 extra circuits, a 30-amp. dryer fusible pullout, a dryer pullout and 4 extra branch circuits. The interior is factory wired. A hook-on cover is secured by two screws. The housing will fit between building studs in its 27⅝-in. overall width.

Identify as IEN - 8999

Sam Tour & Co. holds exclusive licensing rights for a new hot radiography process in which welded pipe sections can be inspected while they are still hot. The process employs a liquid-cooled film holder that applies over the work to protect the film in temperatures as high as 1,200 deg. F.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 9000

Another Big Value by the Big Name in Fans

There are many spots where added ventilation or air movement would make for greater comfort and efficiency . . . and here's the volume blower for it. Heavy gauge steel housing. Torrington Airotor wheels. Quiet motor. 1/30 hp. 3¼" inlet. 4¼" x 3½" outlet. Only 8¼ lb. Conservatively rated at 260 CFM. Larger sizes, up to 26", also belt driven models.

WRITE FOR COMPLETE CATALOG

STANDARD ELECTRIC MANUFACTURING CO., INC.
WEST BERLIN 12, NEW JERSEY, U. S. A.

If you write maker identify as IEN - 9001

A-1030

EASTON

heavy-duty dependability in yard and factory trailers

EASTON CAR & CONSTRUCTION CO. • EASTON, PA.
NEW YORK • PHILADELPHIA • PITTSBURGH

If you write maker identify as IEN - 9002

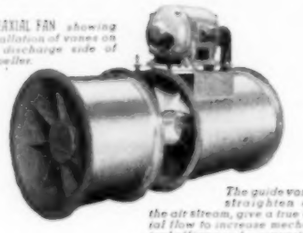
***New!* AMAZINGLY POWERFUL! INDUSTRIAL AIR TUBEAXIAL | VANEAXIAL FANS**

TUBEAXIAL FAN

Designed for system ventilation. May be connected to inlet or outlet duct, or both, as the installation may require. For mounting at the inlet end of a duct the unit should be equipped with a streamlined orifice ring.

The new Industrial Air Tubeaxial and Vaneaxial fans produce high pressure air flow far beyond the capacity range of standard blowers. They are Industrial Air's answer to your tough exhaust problems. Produced after years of research. Provide greater economy in every way . . . COST, INSTALLATION, OPERATION AND MAINTENANCE. Delivers air against heavy pressure.

VANEAXIAL FAN *showing installation of vanes on the discharge side of propeller.*



The guide vanes straighten out the air stream, give a true axial flow to increase mechanical efficiency by converting waste energy to useful work.

Installation of an Industrial Air Tubeaxial or Vaneaxial fan is as simple as replacing a duct section and requiring no more space. The noise factor is far below the decible rating of any comparable equipment. Available to your job needs and specifications, either direct or belt driven units, sizes from 12" to 48", motors from ⅓th H.P. to 50 H.P., Static pressure up to 4", 1000 to 65,000 C.F.M.

Represented in all principal cities

Write DEPT 802 for complete catalog

THE HARVEY P. BERTRAM CO.
3004 W. Ninth St. Cincinnati, Ohio

If you write maker identify as IEN-9004

NO OTHER Power Lift Truck has ALL THESE FEATURES!

CAPACITIES: 4000 and 6000 lbs.
PALLET and PLATFORM TYPES

the *NEW* LEWIS-SHEPARD JACKLIFT® ELECTRIC TRUCK

Since 1915

Send for new JACKLIFT Catalog

LEWIS-SHEPARD

333 Walnut St., Watertown 72, Mass.

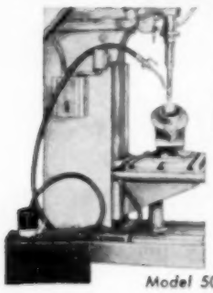
Sales-Service in Principal Cities

See "Trucks, Industrial" in your Yellow Phone Book

The "MASTER" Line

If you write maker identify as IEN-9005

BRADY *coolant pumps* WILL SAVE YOU MONEY!



only $64.50

Model 500 ST

f.o.b. factory

For Permanent or Temporary Use

Here's one of our most popular ball bearing pump and tank units...portable—up to 500 GPH—with 5 gal. steel tank. Complete with hoses, nozzle, and electrical cord with plug.

Write for catalog on our complete line

316BC

Brady CORPORATION

1003 East 18th Street Muncie, Indiana

If you write maker identify as IEN-9006

SHIPPING COSTS GO DOWN

CORROSION LOSSES STOP

WITH MARVELLUM VPI® WRAP

• Time consuming slushing, expensive wraps and seals, messy and costly cleaning are no longer necessary if you use Marvellum VPI. Developed for Government shipments during the war, VPI is now available to all. It's the ideal wrap for shipping Ferrous metal parts. A special coating on the paper vaporizes and forms an invisible protective film around the item wrapped, preventing corrosion.

It is easy to use — just fold the paper over the part. Tight seals, rust-preventive oils, puncture-proof wrappings or direct contact with the chemical are not necessary. Yet Marvellum VPI protects against rust for years. Open the wrapping and there's the part as bright and clean as when it was made.

Marvellum VPI is available in sheets, envelopes or special containers. Marvellum has complete facilities under one roof for designing, coating and producing VPI Wraps. Also makers of a wide range of other Barrier Materials, Government Approved, for product protection.

Write for FREE Booklet and name of nearest distributor.

The Marvellum Company

20 APPLETON STREET HOLYOKE, MASS.

First and Foremost in VPI Protection

If you write maker identify as IEN-9007

DRYING . . Oil fired heater and blower, 400,000 btu., 21,000 cfm.

Source: DRAVO CORP.
Liberty & Fifth Aves., Pittsburgh 22, Pa.

5 hp., 36 in. blower

Crop Drier Model 404CD is a new portable combination of oil-fired heater and motor-driven blower for delivery into a storage space to provide drying action. The equipment was initially developed for farm use. It is being offered also for applications where a supply of heated air can serve a useful purpose in service.

The burner handles No. 1 or No. 2 fuel oil at 3 gph. It is served by a motor driven pump and combustion air blower. It fires tangentially into an annular stainless steel combustion chamber for exhaust through a stack.

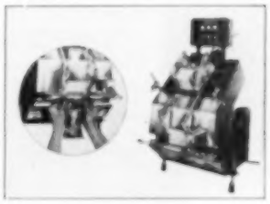
Air is drawn in through a tube that passes through the center of the combustion chamber and also through an annular passage surrounding the chamber to issue at the opposite end of the assembly. Rating is 21,000 cfm. on a temperature rise of 19 deg. F. It is 16,000 cfm. on ¾ inch of water pressure for a 24 deg. F. temperature rise.

Overall dimensions are 7 by 5½ by 7 ft. without the stack. Weight is 1,850 pounds. Maximum output temperature is 125 deg. F. The unit is listed by Underwriter's Laboratories.

If you write maker identify as IEN-9008

PACKAGING . . Heat sealing machine also puts labels on filled bags

Source: AMSCO PACKAGING MACHINERY INC.
31st St. & 48th Ave., Long Island City 1, N. Y.



Adjusts for size

The operator of this new combination sealing and labeling machine places a filled bag and touches a hand trip starter plate. This causes the machine to guide the bag top and a label that has been fed from the magazine on the machine between the jaws of the sealing device. At the same time another label is picked up from the magazine and positioned for the bag to follow. Two sealing jaws, each equipped with its own cartridge type hermetically sealed heating element, move inward to complete the sealing action.

The machine takes labels measuring 3 to 7 in. in face width. It can be set to fold flush back to back or short back and long front depending upon the label design required. Sealing heat is controlled by a thermostat. Mounting is on three rubber equipped feet to apply on a bench. Dimensions are 19 by 27 by 34 inches. Operation is on 110-volt ac.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9009

Bench mounted HS4 with felt bob on plastic mold polishing.

Your phone will withstand the roughest use for more than a million calls. That record is due in part to a perfect molded surface free from pits and crevices where failures start. Haskins Flexible Shaft equipment polishes these precision molds to mirror-like perfection . . . assures constant, precise molding. Whatever your requirements for polishing, sanding, filing or grinding, you'll find the right Haskins machine and attachments with a proved record of fast, efficient performance. Your choice of mounting—bench, pedestal or suspended. Write today for full information. R. G. Haskins, 601 S. Washtenaw, Chicago 12, Ill.

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PLEXIBLE SHAFT EQUIPMENT

If you write maker identify as IEN-9010

UNIVERSAL DRILL BUSHINGS establish new standards of high quality

Universal Drill Bushings, produced at the big, modern plant of the Universal Engineering Company, have been first in industry for more than 25 years. They are accurately machined with superhoned bores from the finest quality steel and carefully inspected to insure maximum efficiency and extremely long life. Write today for complete information.

The modern home of finer production tools

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FRANKENMUTH 6, MICHIGAN

156-A

If you write maker identify as IEN-9011

Now! 100% Grit-Free Wiping and Polishing!

Kimwipes*

INDUSTRIAL TISSUES

End the dangers of dirty, scratchy cloths used over and over again! KIMWIPES* industrial wiping tissues are far safer—because they're *disposable*. So inexpensive, a fresh, clean tissue can be used for each application—then thrown away!

KIMWIPES are clean, soft, pleasant to handle—100% free of abrasive matter. Each tissue is a "man's handful" and can absorb up to 16 times its own weight in liquids. Recommended for wiping safety goggles and shields, wiping up light oils and hazardous chemicals, cleaning instruments and highly finished surfaces. In the handy "serve-up" package, KIMWIPES can be conveniently located at several spots in your plant—they serve just *one* at a time.

Order a supply today. For further information, fill out coupon below or write to Kimberly-Clark Corporation, Neenah, Wisconsin.

KIMWIPES INDUSTRIAL WIPING TISSUES

A Product of **Kimberly-Clark**

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KIMBERLY-CLARK CORPORATION
Neenah, Wisconsin * Dept. DD-8
Please send me Kimwipes literature.

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Address _____
City _____ *Zone* ____ *State* _____

If you write maker identify as IEN-9013

RE-NU TOP
STEEL-BOUND SKID PLATFORMS

BUILT TO LAST A LIFETIME

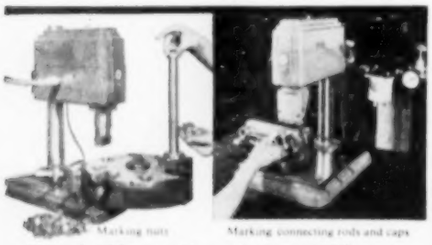
500 LB. LOAD UP TO 10 TONS

Designed to fit your loads and equipment. Plain bolted construction for use with hand lift trucks or bolted and welded under frame with armored ends for rough handling by powered trucks. Special purpose skids can be equipped with end racks, shelves, stake pockets, crane hooks, rounded corners and other special features.

THE LANHAM COMPANY

1405 S. 12th St., Louisville, Kentucky

If you write maker identify as IEN-9014



Marking nuts — Marking connecting rods and caps

Mark More Parts per Minute

Whether your problem is the marking of nuts, bolts, connecting rods, axles, pots and pans or the branding of screw drivers, pencils, baseballs or ammunition belts—it will pay you to investigate the Automark. This automatic high-speed pneumatic marking machine needs no special jigs or fixtures for average work. Where holding devices are required several standard automatic fixtures are available. We'll gladly design and build special equipment. Write for Bulletin 712.

NEW Electric Typewriter marks metal name plates in one-fifth the time.

AUTOMARK
Automatic Marking MACHINE
Manufactured Exclusively By

AGENTS
Desirable territories open for responsible representatives. Write giving complete information, lines carried and territory covered.

DEFIANCE MACHINE & TOOL COMPANY
1926 South Vandeventer Ave. • St. Louis 10, Mo.

If you write maker identify as IEN-9015

MORE SECURITY FOR YOUR MONEY

- Galvanized fence fabric
- Heavy post caps and arms
- Snug-fitting couplings
- Sturdy line posts
- Improved, welded gates
- Extra post and rail ties
- Engineered erection

*Trade Mks. Reg. U.S. Pat. Off.

CONTINENTAL STEEL CORPORATION
Kokomo, Indiana

Please send FREE copy of "Planned Protection"—complete manual on property protection.

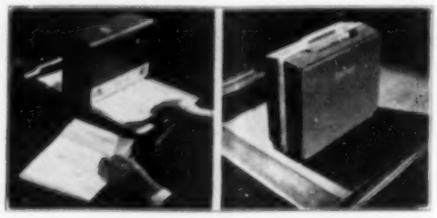
Name
Address
City State

CONTINENTAL STEEL CORPORATION

If you write maker identify as IEN-9016

PHOTOGRAPHING . . Microfilm camera, work width to 11 in., speed to 90 fpm.

Source: DIEBOLD INC.
P. O. Box 127-A, Norwalk, Conn.



List price is about $1,000

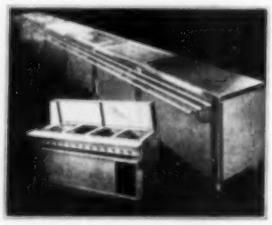
Flofilm trade names a new portable assembly of camera, feed equipment and control to take a film cartridge holding 50 ft. of 16-mm. film. This is sufficient to copy 3,600 checks or 1,600 letter size sheets. The company has established processing service centers to which the exposed film can be sent for developing.

The operator introduces the work at one side. The machine takes it from there, makes the exposure, advances the film and delivers the photographed work at the opposite side. Dimensions are 13 by 5½ by 11 inches. Weight is 20 pounds.

If you write maker identify as IEN-9017

DISPENSING . . Sectional equipment for food preparation and dispensing

Source: SILVERCRAFT INC.
P. O. Box 107-A, Louisville 1, Ky.



For you to assemble

The company announces development of a new line of sectional equipment with which to assemble desired units into a finished installation. The equipment includes plain units, steam tables, cold pans, griddle units, urn stands, refrigerators. It also includes accessories such as doors, shelving. Lengths are 3, 4 and 5 ft. with width at 2 ft. and height at 34 inches.

Work surfaces are made of 16-gage stainless steel or sectional maple. Cabinet bodies are 18-gage furniture steel prepunched for assembly on the job. Finish is baked Hammerloy enamel in white or any of four colors.

Identify as IEN-9018

If you need a building in a hurry, one way to get one is to assemble it from the Steelox interlocking steel panels put out by Armco Drainage and Metal Products Inc. New Manual SX-2051 shows you how.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9019

MANUFACTURERS OF
LOCK WASHERS • FLAT WASHERS • HOSE CLAMPS • STAMPINGS

If you write maker identify as IEN-9020

AA-881

Camachine

SLITTERS AND ROLL WINDERS

If you want fast, low cost production of top-quality rolls of paper, plastics, textiles, rubber, and other plain, coated, laminated or tacky-surfaced materials . . . it will pay you to investigate Camachines!

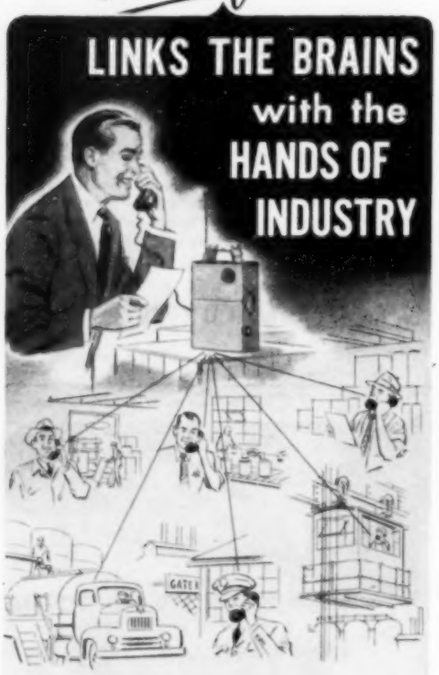
Bulletin 1010 will be sent on request

26-3A, a popular CAMACHINE featuring differential rewinding and positive roll separation. Rolls produced on the 26-3A are ideal for further processing, or for consumer use.

Cameron Machine Company • 61 Poplar Street • Brooklyn 2, N. Y.

If you write maker identify as IEN-9021

hallicrafters
littlefone



Speed production, cut costs, improve the product, increase safety—these are measurable benefits of the Littlefone! Only 9½ to 14 pounds in weight, these portable 2-way FM radiophones can be a "miniature radio network" linking all your key men—on the move or at a desk. It has solved production bottlenecks in hundreds of industries and businesses. Write today for specifications.

hallicrafters
DEPARTMENT L-IE, CHICAGO 24
WORLD'S LEADING MANUFACTURER OF PRECISION RADIO & TELEVISION

If you write maker identify as IEN-9023

Immediate delivery military controls

Includes
JAN-R-94
JAN-R-19
types of military variable resistors and non-JAN controls

UNPRECEDENTED PERFORMANCE CHARACTERISTICS
Designed for use in military equipment subject to extreme temperature and humidity ranges, many of these controls are widely used in:

JET AND OTHER PLANES
GUIDED MISSILES
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TELEMETERING
MICROWAVE
PORTABLE OR MOBILE EQUIPMENT
ALL OTHER MILITARY COMMUNICATIONS

167 types

Immediate delivery from stock on all 167 types. For complete list, description, photos and performance characteristics:
WRITE TODAY FOR STOCK SHEET NO. 162

FOUNDED 1899 • CTS • ELKHART, INDIANA

CHICAGO TELEPHONE SUPPLY *Corporation*

specialists in precision mass production of variable resistors

If you write maker identify as IEN-9024

For *Critical* Applications
Triplett 630-A Has No Counterpart

Accuracy to 1%
Readability with a Mirror-Scale
Adaptability with 5% resistors

Triplett Electrical Instrument Co., Bluffton — Ohio

If you write maker identify as IEN-9025

THE MIRACLE MOTOR

U.S. VARIDRIVE

GO MODERN with U. S. Varidrive, the miracle motor that changes to any selected speed, *instantly*. It can run slow, fast or at any speed in between, right to a split rpm. You don't have to change gears, shift belts or use a rheostat. Just turn a control dial. Entire unit is self contained, all on one base.

In countless instances the U. S. Varidrive Motor has paid for itself within a few weeks by stepping up output. Our bulletin tells you why.

2 to 10,000 rpm—¼ to 50 hp

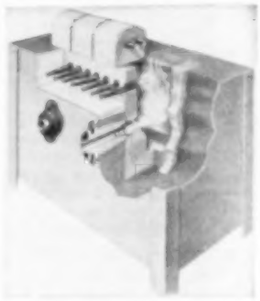
U.S. ELECTRICAL MOTORS Inc.
(Box 2058) Los Angeles 54, California
or Milford, Conn.

U.S. MOTORS

If you write maker identify as IEN-9026

HEATING . . Gas fired furnace designed to forge and harden chisels

Source: DELAWARE TOOL STEEL CORP.
3320 Market St., Wilmington 99, Del.



Ask for Bulletin SA-394

Chisel blanks are heated to forge and forged chisels are brought up to correct temperature for hardening in this new Forgatrol furnace. They are inserted through openings in a work tile so the portion to be heated projects into the combustion chamber and the balance of the chisel, particularly the shank, is shielded against becoming too hot. The furnace operates in a range between 1,200 and 2,800 deg. F. Provision is made to insert a thermocouple or temperature indicator and control. Work tiles are available with openings to about 3 in. in diameter. They also can be supplied blank to be bored out by the user.

Control can be specified as manual with separate air and fuel valves, manual with an adjustable port combination of fuel air proportioning valve and automatic by means of a motor operated valve and pyrometer controller. The furnace is particularly suited for tool servicing in a plant. It is available with 1, 2 or 3 burners and corresponding work tile width of 7, 14 and 21 inches. The 7-in. unit takes four tools at a time. The 21-in. tile will take 7. Effective heating length in each case is 4¼ inches. Floor space ranges from 19 to 33 in. in width. Each is 18 in. front to back. A somewhat larger assembly with 6¼ in. of effective heating length measures 20 in. front to back. Construction otherwise is similar.

If you write maker identify as IEN-9027

CLEANING . . Solvent spray machine removes dried paint from spray masks

Source: SEPANSKI & ASSOCIATES
416 Henry Ave. S. E., Grand Rapids 6, Mich.

Safe and fast

Air pressure at 50 lb. from a shop source is employed in this new mask washing machine to pick up solvent from a closed reservoir in the machine base and deliver it through multiple nozzles on all sides of a spray mask introduced into the cleaning chamber through the hinged top. Action is initiated by depressing a foot control. The spraying interval is pneumatically regulated. The solvent is returned to the reservoir prior to opening the top to remove the cleaned mask.

Two machines measure 22 and 35 in. in width by 16 in. in depth by 37 in. in height. The larger unit takes masks to 33 by 16 inches. The smaller one rates 14 by 16 inches. Solvent capacity is 10 and 5 gal. respectively.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9028

FOTO-FLO* MODEL C
PHOTO-COPYING MACHINE
New! Speedier! More Economical!

DAYLIGHT OPERATION NO DARKROOM REQUIRED

Makes up to 5 (18" x 24") Prints a Minute of anything written, printed, drawn or photographed

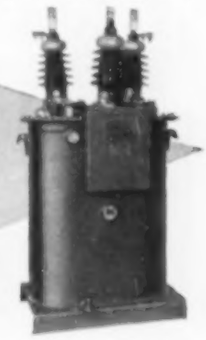
WRITE DEPT. 52-59 for information showing how FOTO-FLO can speed production and lower photo-copying costs.

*Reg. U. S. Pat. Off.

HALOID THE HALOID COMPANY
ROCHESTER 3, NEW YORK
Branch Offices in Principal Cities
Photocopy Papers • Photo copying Machines • Photographic Papers

If you write maker identify as IEN-9029

A DESIGN FOR ACCURACY



ALLIS-CHALMERS METERING OUTFITS

THIS METERING OUTFIT combines the characteristics of both potential and current transformers at real installation economy. And you get traditional A-C instrument transformer accuracy that equals or exceds ASA standards.

Important advantages: 1) savings in space with only one unit to mount; 2) transformers interconnected at the factory to simplify installation; 3) neat appearance.

High safety factor and sound electrical design proved in years of successful operation under unusual conditions. All metering outfits are furnished with double current ratings to provide for future load growth.

For Bulletin 61B7168 on instrument transformers or metering outfits, contact your nearby A-C sales office. Or write Allis-Chalmers, Milwaukee 1, Wisconsin. A-3775

ALLIS-CHALMERS A-C

If you write maker identify as IEN-9030

Heavy molds are handled smoothly and carefully with a simple crane with extended hand-chain wheel on the hoist.

GET THIS BOOK! inexpensive hand-propelled
BOOK No. 2008 Packed with valuable information

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
4214 East 355th St. Wickliffe, Ohio

CLEVELAND TRAMRAIL

If you write maker identify as IEN-9031

CUT HANDLING COSTS...SPEED LOADING with Wayne LOADING DOCK LIFTS

TILT TO MEET LOAD... CUT LOADING TIME IN HALF

Loading dock lift is adjusted to correct height . . . industrial trucks to roll on and off easily. No chain lifts, pry bars or costly manual labor necessary. Wayne Dock Lifts do it all . . . with valve or push button control of quick acting hydraulic system. Adjusts to any height.

From loading docks to production line. There's a Wayne Industrial Lift. Wayne Lifts include ramps, sidewalk elevators, material lifts, crane over bridges, service lifts and others. Write for Wayne Industrial Lift booklet.

THE WAYNE PUMP COMPANY
Salisbury, Maryland • Toronto, Canada

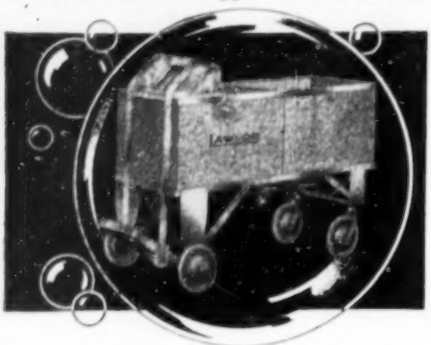
Wayne NATION WIDE SERVICE

WAYNE LIFT DIVISION, Crunton, Ohio

If you write maker identify as IEN-9032

LAWLOR MOPPING TANKS

Lead the Field in Ruggedness and Service



6 styles and sizes of all steel, acetylene welded tanks • 2 or 3 compartments • 30, 60 or 65 gallon capacities • hand or foot pressure wringers • perforated roll wringers • special drain shut-offs • hot dipped, galvanized chassis and frames • rubber tired, cadmium plated steel wheels.

Write for Catalog of Mopping Tanks, Wringers, Floor Scrub Wax-Polishing Machines for every kind and size floor.

Quality Floor Equipment for 50 Years

S. C. LAWLOR CO. 120 North Aberdeen Street Chicago 7 • Illinois

If you write maker identify as IEN-9033

Noisy Telephoning a Problem?

Solve It by Installing

BURGESS-MANNING

Acousti-Booths

- Walls of thick sound-absorbing material and patented construction reduce the loudness of noise by 50%*... leaving a zone of quiet.
- Doorless construction makes for a light, airy, well-ventilated booth... easy to keep clean.
- Low maintenance cost... Easy to move... Suited to any noisy location.

Model 211 Floor Model

Model 602 Wall Model

* Results of studies by a prominent research organization. Report available for review. Write for Bulletin A-107.

BURGESS-MANNING COMPANY

Architectural Products Division

5970-A Northwest Highway, Chicago 31, Illinois

If you write maker identify as IEN-9034

SCREENS . . . STRAINERS

TO YOUR SPECIFICATIONS

MADE BY

Specialists

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PITTSFIELD ENGINEERS will design a screen or strainer to meet the exact requirements for particle retention, flow capacity, limiting dimensions of your product. Send specs plus rough sketch for FREE quotation.

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NEW LITERATURE

Brief reviews to advise you of available new information published by the manufacturers covering products they offer for your use. Each includes identification, size of the material, information it contains so you can judge its value to you.

AIR CONDITIONING . . Units for crane-operator's cab, particularly for hot, dusty, fume-laden locations; models, selection chart, applications. Bulletin 1391, 24 pages. Dravo Corp., Liberty & Fifth Aves., Pittsburgh 22, Pa. **IEN-0840**

BOILERS . . "Amestream" generators, 10 to 500 hp.; detail description on standard equipment, capacity and dimension table, burners, controls. Bulletin 1050, 8 pages. Ames Iron Works, P. O. Box R-1-A, Oswego, N. Y. **IEN-0841**

BOILERS . . With integral burner and controls, 10 to 500 hp., oil or gas fired; cut-away internal view, capacity table. Form 102, 4 pages. Boiler Engineering & Supply Co., Keen & Manavon Sts., Phoenixville, Pa. **IEN-0842**

BORING . . Style-425 vertical precision machine for boring, turning, facing; general description, construction, possibilities. House publication issue, "Tool Tips 27-6", 8 pages. Ex-Cell-O Corp., 1202 Oakman Blvd., Detroit 32, Mich. **IEN-0843**

BRUSHES . . Glass-fiber units for acid-applicator, burnishing, erasing, metal-cleaning uses; illustrated types with application suggestions. Leaflet E-100, 2 pages. Eraser Co., 102-6 S. State St., Syracuse 2, N. Y. **IEN-0844**

BUILDING . . Translucent sheet of Fiberglas-reinforced plastic, flat or corrugated; sizes, specifications, uses for skylights, partitions, stalls. "Structural Panels", 12 pages. Resolite Corp., Route 19, Zelienople, Pa. **IEN-0845**

BUILDINGS . . "Steelox" steel buildings in shed and gable-roof designs; basic units, accessories, erection, examples. Manual SX-2051, 24 pages. Armco Drainage & Metal Products, 701-5 Curtis St., Middletown, Ohio **IEN-0846**

CARBIDE PARTS . . Of Series-600 chrome carbide; data on corrosion-resisting performance in 11 different chemical solutions, other properties. Sheet 127-1151E, 2 pages. Carboloy, 11167 E. 8 Mile Road, Detroit 32, Mich. **IEN-0847**

CHEMICALS . . 189 organic chemicals from Acetic Anhydride to Xylol; specifications and list prices for 5-gal. containers. "Commercial List No. 1", 8 pages. Matheson Co., 335-39 Paterson Plank Road, East Rutherford, N. J. **IEN-0848**

CIRCUIT BREAKERS . . Type-AB units, 10 to 600 amp.; selection chart, construction points, operation. Bulletin B-5407, 36 pages. Westinghouse Electric Corp., 511 Wood St., Dept. IEN, Rm. 1110, Pittsburgh 30, Pa. **IEN-0849**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9035

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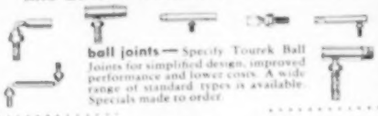
BALL JOINTS • PIPE PLUGS

AND QUALITY SCREW MACHINE PRODUCTS



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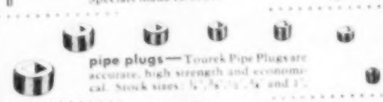

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ESTABLISHED 1920

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In Radioactive Research, it saves precious man hours and results in greater economy and efficiency.

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Whatever your counting problems, our Engineering Department can adapt these Recorders to meet your particular need.

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JIG GRINDING ACCURACY *guaranteed*

INFINITE CONTROLLED SPEEDS

30,000 TO 65,000 R. P. M.

Easily connect jig grinder to jig borer or mill

Then you can finish grind in hardened steel to "tenths"... jig grind dowel holes square with a ground base... move location of holes in hardened steel blocks... jig grind interchangeable holes in hardened sections... grind small holes with diamond impregnated mandrels... grind contours and relief with tungsten carbide burrs... grind radii in die sections... eliminate jig bushings in tools where close spacing is essential.

Other infinitely controlled air driven spindle applications

Place spindle on most any machine. Use it for finishing contours on hardened steel working surfaces... burring or milling die castings... routing wood contours... carbide milling or finishing slots... finishing holes in hardened steel to "tenths"... grinding with diamond wheels, carbide burrs, or diamond impregnated mandrels.

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NEW LITERATURE — Continued

CLEANING . . "Wheelabrator Tumblast" abrasive-blast machine for continuous production; operating description. Bulletin 844, 4 pages. American Wheelabrator & Equipment Corp., 1119 S. Byrkit St., Mishawaka, Ind. **IEN-0850**

COMMUNICATING . . "P-A-X" business telephone equipment, electrical controls, relays and other components; products and facilities. Bulletin 1727, 24 pages. Automatic Electric Co., 1031-35 W. Van Buren, Chicago 7, Ill. **IEN-0851**

CONDUCTORS . . Wiring harnesses and assemblies, cord sets, accessory wiring equipment; picture examples, facilities. Bulletin, 4 pages. Riverside Mfg. & Elec. Supply Co., 10226-30 Michigan, Dearborn, Mich. **IEN-0852**

CONNECTORS . . Crimp-type terminals and tools for electric wire, also cable and conduit fittings; illustrated data. Catalog 52, 12 pages. Buchanan Electrical Products Corp., 225-A Highway 29, Hillside, N. J. **IEN-0853**

CONNECTORS . . Glass-metal hermetic terminals; standard models, dimensions, ratings, assembly suggestions, metallized products, insulators. Catalog W-52, 16 pages. T. C. Wheaton Co., 43 N. Second St., Millville, N. J. **IEN-0854**

CONTACTS . . In silver, silver alloys, palladium, nickel, and metal-powder compositions; properties chart, sizes, stampings. Catalog C-520, 12 pages. Gibson Electric Co., 8353 Frankstown Ave., Pittsburgh 21, Pa. **IEN-0855**

CONTAINERS . . Parade of pressed steel containers from trolley air receivers in 1902 to special tanks in 1952. "Design for Progress", 16 pages. Pressed Steel Tank Co., 1443-47 S. 66th St., Milwaukee 14, Wis. **IEN-0856**

CONTROLS . . Index to company's literature on instruments, listed numerically by groups and alphabetically by subject in a cross-index. Bulletin 100-A, 20 pages. Brown Instruments, 4456 Wayne Ave., Philadelphia 44, Pa. **IEN-0857**

CONVEYING . . Hollow-pin conveyor chain; details on design and assembly, examples of attachments secured through the hollow pins. Bulletin HP-1, 4 pages. Armor Conveyor Chain Co., 17102 Miles Ave., Cleveland 28, Ohio **IEN-0858**

CONVEYING . . Mechanical vibrating conveyors to handle bulk materials; details on the drive, general construction features, examples. Catalog 849, 12 pages. Jeffrey Mfg. Co., 914 N. 4th St., Columbus 16, Ohio **IEN-0859**

CONVEYING . . Roller gravity conveyors; roll sizes, conveyor specifications, curve clearance chart, accessories, installation pictures. Bulletin 642-OPC, 28 pages. Lamson Corp., 303-5 Lamson St., Syracuse 1, N. Y. **IEN-0860**

CONVEYING . . Roller and wheel conveyors; roller and frame data, bearings, dimension drawings, accessories, illustrated applications. Catalog 151, 68 pages. Mathews Conveyer Co., 191 Tenth St., Ellwood City, Pa. **IEN-0861**

CONVEYING . . Steel belt consisting of hinged links with chain drive, 6 in. to 6 ft. in width; construction points, sizes. Bulletin MF-530, 4 pages. May-Fran Engineering Inc., 1694 Clarkstone Road, Cleveland 12, Ohio **IEN-0862**

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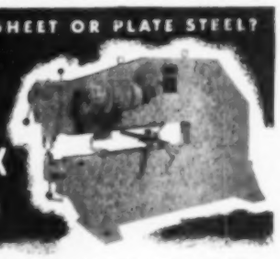
LOOK at what PULLMAX CAN DO



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Demands for greater flow are instantly met, with minimum pressure drop. Stabilized control prevents chatter and vibration — increases life.

Sturdily constructed of brass. Corrosion resistant. Compact. It's easy to service without removing from the line.

Initial pressures up to 250 lbs. reduced to any pressure between 5-60 psi, 60-100 psi. Sizes ¼" to ½", 2½" pressure gauge included.

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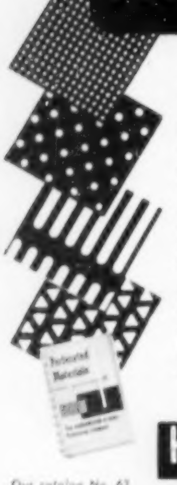

. . . to answer the problems of eye appeal or ventilation or drainage or acoustical correction, or to provide a satisfactory material to screen, grade or guard your product.

H & K Perforations are furnished in a wide range of sizes, shapes and spacings in all currently available metals and nearly all plastics which are obtainable in the form of plates, sheets and coils.

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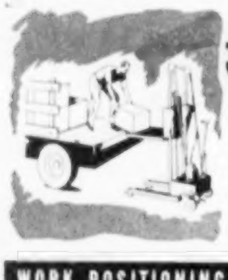
Move dies from storage directly to machines with the Raymond Hydraulic High Lift Truck. Optional roller top or boom simplifies handling. Use truck for other moving or stacking jobs too. It's ruggedly built, smooth-rolling, highly maneuverable.



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Lack a loading platform? Then put the RAYMOND High Lift Truck to work. Hand or electric-driven hydraulic power unit does all your heavy lifting — handles loads weighing up to 1,000 lbs.

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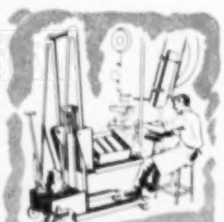

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NEW LITERATURE—Continued

CORROSION PROOFING . . "Carbo-Kote 6020" furan-base resin for metal, wood, masonry; application procedure, coverage, resistance, list prices. Bulletin 500, 4 pages. Carboline Co., 7601-5 Forsyth Blvd., St. Louis 5, Mo. **IEN-0863**

CORROSION PROOFING . . Gilsonite-base materials for equipment, structures, buildings; properties, picture applications. "Insul-Mastic in Industry", 48 pages. Insul-Mastic Corp., 1139-43 Oliver Bldg., Pittsburgh 22, Pa. **IEN-0864**

CORROSION PROOFING . . Volatile amine compound to prevent corrosion in steam and condensate lines; description, diagram, user reports. "Coravol", 6 pages. Western Chemical Co., 715 Washington, Kansas City 6, Mo. **IEN-0865**

CRANES . . Power hydraulic crane bridge brakes; color-coded schematic diagrams and description on components and operation. Folder 1U-36, 4 pages. Wagner Electric Corp., 6414 Plymouth Ave., St. Louis 14, Mo. **IEN-0866**

CUTTING . . "Wessonmetal" carbide turning tools, milling cutters, blanks; selection table, list prices, special tools. Catalog 520, 52 pages. Wesson Co., 1218 Woodward Heights Blvd., Ferndale 20, Mich. **IEN-0867**

DRILLING . . Tools ground from the solid after hardening; standard types with dimensions, types for plastics, carbide drills, sharpening data. Catalog 52, 56 pages. Ace Drill Co., 2002 Maumee Road, Adrian, Mich. **IEN-0868**

DRILLING . . And tapping machine with pneumatic feed; data on bench and floor models, multiple-spindle units with notes on operation. Bulletin 15, 4 pages. Beckett-Harcum Co., 1138-42 Wayne Road, Wilmington, Ohio **IEN-0869**

DRIVES . . V-belt drives, fractional to 10 hp.; data on belts, sheaves, accessories with engineering selection information. Catalog F-10, letterhead request, 44 pages. Maurey Mfg. Co., 2915 S. Wabash Ave., Chicago 16, Ill. **IEN-0870**

DRIVES . . Reduction gears for engine-driven heavy equipment; illustrated examples together with illustrations of plant facilities. Folder, 4 pages. Snow-Nabstedt Gear Corp., 249-53 Welton St., Hamden, Conn. **IEN-0871**

DRYING . . Of process materials under vacuum is described by application examples for freeze dryers, shelf dryers, rotary units. Catalog 720, 24 pages. F. J. Stokes Machine Co., 5956 Tabor Road, Philadelphia 20, Pa. **IEN-0872**

DUST COLLECTING . . "Dustbuster" self-contained pick-up and storage unit for dusts, chips, shavings, details on two sizes, recommended uses. Bulletin 635, 4 pages. Aget-Detroit Co., 401 Main St., Ann Arbor, Mich. **IEN-0873**

ELECTRONIC PRODUCTS . . Cathode-ray tube for industrial television equipment, 8 by 6-in. picture size: ratings, performance curves. Bulletin 10SP4-52, 4 pages. Radio Corp. of America, 413-17 S. 5th St., Harrison, N. J. **IEN-0874**

ELEVATORS . . Oil-hydraulic types for freight and passenger service: operating principle, cars, planning data, controls. Catalog, "OILift", 16 pages. Globe Hoist Co., Queen St. at E. Mermaid Lane, Philadelphia 17, Pa. **IEN-0875**

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PRODUCTION BORING with E-Z SET *by Maxwell*

Only the **MAXWELL E-Z Set** boring tools feature **high speed operation, micrometer-like adjustment** to 0.0001 inch and **maximum boring range.**

Interchangeable shanks permit E-Z Set boring tools to be used in turret lathe, jig-bore, milling machine, boring mill, automatic or other machine tools. Because they can be adjusted for cut in only one-tenth the time formerly required by similar tools, these Maxwell-made tools can meet high-speed production on schedules.

E-Z Set boring tools are available in three models having maximum boring bar capacities of ½, 1 and 1½ inches and covering a boring range of from ⅛ to 20 inches.

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THE MAXWELL COMPANY

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remove all guesswork from tension or stress problems

WIDE CAPACITY RANGE

500 to 50,000 lbs. The perfect lab or field instrument for showing tension or stress. Hundreds of uses. Small—Light—Accurate—Low cost. Write today for illustrated bulletin.

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MODEL 219

American Electric *Variable Frequency* **MOTOR-BLOWERS**

Especially designed for spot cooling electronic equipment aboard aircraft. Unique design insures minimum watts loss over full frequency range of 320 to 1000 cycles.

In spite of wide frequency variations, the cfm output remains essentially constant at sea level. As pressure is reduced, the rpm increases, providing additional velocity of cooling air.

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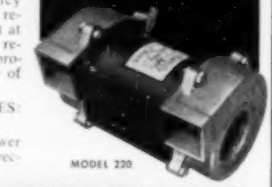
AIR DELIVERY: Blower heads available for any direction of air delivery.



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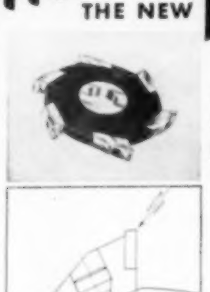

Interchangeable blades are seated against a body abutment that absorbs all cutting forces. Conically seated cap screw and dowel pin accurately locate blade against body.

Carbide Tipped Milling Cutter with these Design Advantages:

1. The Millit interchangeable blade cutter is easily and economically adapted to cut any material.
2. Cutter bodies can be rebladed for straight slotting, alternate blade slotting, and either right or left hand side milling.
3. No wedges, serrated surfaces or slots to cause distortion.
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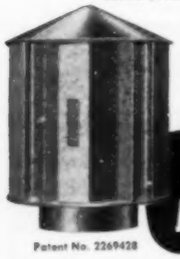
fact 1 Although ventilators have long been selected primarily on the basis of capacity ratings, those ratings usually are based on *horizontal* wind tests only. *In actual use ventilators must perform with winds blowing at* ANY *angle.*

fact 2 Capacity ratings of most ventilators are not certified. Performance does not equal ratings claimed in some cases.

fact 3 Breidert Air-X-Hausters are the *pioneer* ventilators with published capacity ratings based on tests* made with wind blowing in *all* directions, as shown below.

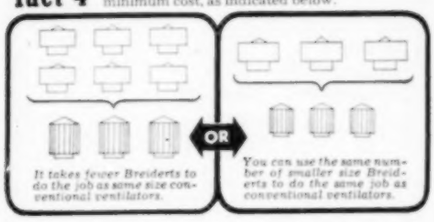
Breidert Air-X-Hausters provide safe, sure ventilation no matter which way the wind blows (barring interior negative pressures). Stationary, no moving parts, nothing to jam or get out of order.



Patent No. 2269428

Breidert Air-X-Hausters

fact 4 The Breidert delivers better results at minimum cost, as indicated below.



It takes fewer Breiderts to do the job as some size conventional ventilators.

You can use the same number of smaller size Breiderts to do the same job as conventional ventilators.

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If you write maker identify as IEN - 9056

DRYING . . Infra-red oven for paper, textiles, metal, plastics

Source: HERBERT PRODUCTS INC.
74-34 Jamaica Ave., Woodhaven 21, N. Y.

On two printing presses

Metal elements serving as the source of the infra-red energy are mounted in metal reflectors and are pivoted to ride in horizontal position facing both up and down at a distance 1 in. below and 1 in. above the center line of this new oven. The element assemblies are link connected to operating air cylinders and doors are provided in the top and bottom of the oven housing.

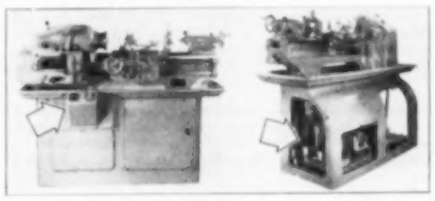
The arrangement permits swinging the elements up and away from the center line and, at the same time, opening the doors so heating is immediately eliminated. This action is tied in with the electric circuit to the driving motor on a machine so a web of sheet material issuing from this machine and passing through the oven will be dried but not burned while it is in motion or when the machine has been stopped.

Oven temperature is adjustable over a range of 350 deg. to a maximum of 500 deg. F. Operating air for the pivoting mechanism is at 40 pounds. The oven is sheathed with Marinite insulating material. A collector duct at the outlet end of the oven leads to an exhaust fan to draw off fumes and vapors that are liberated in the drying process.

If you write maker identify as IEN - 9057

LATHE . . For tool room use, electronic variable speed drive

Source: HENDEY MACHINE CO.
103-7 Summer St., Torrington, Conn.



For new machines or those in service

The company announces availability to specification of a new electronic drive for its 9 by 24 in. tool and gage maker's lathe. The new equipment is designed to fit into the lathe base and can be specified in place of the regular 3-hp. dc. adjustable speed motor. It provides stepless speed change between 25 and 3,000 rpm. with close speed control under changing load and full torque at low speed.

Control centers at a panel at the front of the lathe where a control handle selects forward and reverse operation or stop. Dynamic braking stops rotation from any speed in 1½ seconds. Drive operation is on 220 or 440 volt single phase 60-cycle ac. which operates through the electronic control equipment to a 220-volt 3-hp. dc. motor.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 9058

★ Not an oil—a chemical that dissolves and prevents rust.
★ Expands and contracts with metal—stops peeling and blistering of paint coat.
★ Provides perfect surface for painting.
★ One gallon covers approximately 1200 sq. ft.

Rust deposit on steel forms a pitted surface.

Old method of applying oil base paint after sanding or brushing leaves rust in pits which later break through.

Lowell Metal Primer goes into the pits, dissolves ALL the rust and seals the surface — stops future paint failures.

Apply Lowell Metal Primer with cloth, brush, spray or by dipping. Watch it dissolve rust and seal the surface against future rust. It expands and contracts with the metal which prevents peeling or cracking like oil base primers. Use on damp or dry surfaces—dries in one hour . . . covers two to four times the surface of oil base paints; priced approximately the same.

USE Lowell FOR PRIMER BEFORE PAINTING

Metal roofs, iron fences, gutters, metal window sash, farm equipment, metal tanks and stacks, poles, any surface subject to rust or oxidation.

GENSCO

GENSCO CHEMICAL DIVISION

1836 NORTH KOSTNER AVENUE • CHICAGO 39, ILLINOIS

If you write maker identify as IEN - 9059

Boost Your Machine Output With This G-E Time Meter

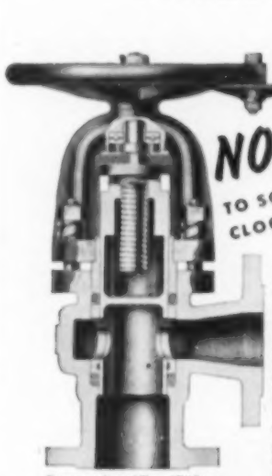
KT TIME METERS . . .

- Record operating time in hours, tenths of hours, or minutes.
- Reveal exactly how much work your machines are doing.
- Enable you to reschedule work and plan repair schedules more efficiently.
- Are easily installed; portable, panel, and conduit models available.

Contact Your Nearest G-E Sales Office. General Electric Co., Schenectady 5, New York.

GENERAL ELECTRIC

If you write maker identify as IEN - 9060



NO SEAT! TO SCORE . . . WEAR . . . CLOG . . . AND LEAK

The Yarway Seatless Blow-Off Valves eliminate the commonest source of trouble and expense with ordinary blow-off valve operations.

The famous seatless principle first introduced nearly 40 years ago, has been constantly improved and adapted to meet modern service requirements.

There is a Yarway Blow-Off Valve for every pressure.

SEND FOR FREE BLOW-OFF VALVE BOOKLET. PLEASE STATE YOUR BOILER PRESSURES.

Cross section of Type "B" Seatless Angle Valve, Flanged.

YARNALL-WARING COMPANY
122 Mermaid Ave., Phila. 18, Pa.

YARWAY BLOW-OFF VALVES

If you write maker identify as IEN - 9061

Aeroquip

YOUR BEST BUY IN FLEXIBLE HOSE LINES

FITTINGS are detachable and reusable. For on-the-spot hose line replacements cut bulk hose to required length and attach fittings. It saves time and money, and reduces inventory.

HOSE is tough, durable and fire resistant. Ideal for use with hydraulic fluids, lubricants, water, gasoline, Diesel fuel, air and many other fluids.

AEROQUIP CORPORATION
JACKSON, MICHIGAN

FLEXIBLE HOSE LINES • DETACHABLE, REUSABLE FITTINGS • SELF-SEALING COUPLINGS • BREAKAWAY COUPLINGS • HYDRAULISCOPE

Aeroquip Products are fully protected by Patents in U.S.A. and Abroad

If you write make identify as IEN - 9062

STURTEVANT
DUSTLESS BLENDERS
Thoroughly Blend Substances into an Inseparable Mass

The 4-Way Mixing Action of the Sturtevant Dustless Blenders thoroughly mixes two or more substances into an inseparable whole . . . every part of which is the same analysis. Single receiving and discharging opening insures tight sealing during mixing process. "Open-door" accessibility permits thorough cleaning. The fast, accurate mixing operation increases output . . . cuts mixing costs. Mixing capacities from ¼ ton to 75 tons per hour. Write.

STURTEVANT MILL COMPANY
113 CLAYTON STREET • BOSTON 22, MASS.

If you write make identify as IEN - 9063

NEW!
Binks material handling pumps with SURGE CONTROL

Now you can spray all types of materials with Binks air piston material pumps smoothly and evenly. No more starting "globs" or "spurts" when you trigger the spray gun. Fitted with this new control, Binks pumps deliver materials at a uniform pressure. No materials wasted; hoses last longer.

Only Binks air piston pumps have this advanced surge control. Ideal for pumping light or heavy-bodied materials. Investigate today.

Send for Manual 700 and for data sheet on Binks pumps and Surge Control. Complete information. No obligation. Address: Binks Manufacturing Company, 1120-34 West Carroll Ave., Chicago 12, Illinois

Binks
EVERYTHING FOR SPRAY PAINTING

If you write make identify as IEN - 9064

ANGLE STEEL STOOLS
RUGGED-Smooth, with ADJUSTABLE BACK REST TO FIT WORKER

• Years of designing and manufacturing experience stand back of Angle Steel's rugged industrial stools. Perfect rigidity is engineered into all varying models and designs. All stools have Angle Steel's riveted construction. Legs have ball-type feet for solid footing and easy sliding. Available in various heights. Finished in Olive Green, Angle Steel Gray or School Room baked enamel. Choice of wood or steel seats. Wood seats and backrests in natural finish.

Helpful literature . . . . FREE

ANGLE STEEL, Inc.
Dept. 3 Plainwell, Michigan

SEND FREE Literature . . . we're interested in: Benches Machine Tender Trucks Stools

Company

My Name Title

Address

NEW LITERATURE—Continued

ENGINES . . Single-cylinder air-cooled units, 4 to 7 hp.; design points, performance curves, specifications. Three "Bee-Line" catalog sheets, two pages each. Gladden Products Corp., 633-37 W. Colorado, Glendale 4, Calif. **IEN-0876**

EQUIPMENT . . New, used and rebuilt metal-working machinery; condensed classified listings on items in stock. "Blue Book", issued bimonthly, 44 pages. Interstate Machinery Co., 1402 W. Pershing Road, Chicago 9, Ill. **IEN-0877**

EQUIPMENT . . Directory of equipment for conveying, processing, power transmission; alphabetical list, picture examples, catalog list. Book 1953-F, 48 pages. Link-Belt Co., 305-9 N. Michigan Ave., Chicago 1, Ill. **IEN-0878**

FASTENING . . Cartridge-power tools to drive pins or studs into concrete and steel; operating description, fastener types and sizes. Bulletin 68, 8 pages. Ramset Fasteners Inc., 12115-19 Berea Road, Cleveland 11, Ohio **IEN-0879**

FASTENINGS . . Stock types and sizes in stainless steel including bolts, screws, nuts, washers, rivets; also valves, fittings, specials. Catalog 52-A, 20 pages. Star Stainless Screw Co., 195 Union Ave., Paterson 2, N. J. **IEN-0880**

FORGING . . Welded steel press, 300 to 4,000 ton; captioned assembly views to point out construction highspots, specification table. Catalog 42, 4 pages. E. W. Bliss Co., 1373-77 Raff Road S. W., Canton 10, Ohio **IEN-0881**

FOUNDRY . . Shakeouts, sand conditioners, crushers, blowers, dielectric core dryer, others; illustrated data summaries. Bulletin 25-B-0002-C, 16 pages. Allis-Chalmers Mfg. Co., 900 S. 70th St., Milwaukee 14, Wis. **IEN-0882**

GRINDING . . Attachment to adapt portable grinder to use abrasive belts; illustrated examples of its use, specifications on two sizes. Bulletin S-13, 4 pages. Buckeye Tools Corp., Box 966-A, Division 28, Dayton 1, Ohio **IEN-0883**

GRINDING . . Wheel that holds a strip of unjoined coated abrasive on its periphery to grind or polish; sizes, list prices, uses. Folder A-1217, 4 pages. Carborundum Co., 1942 Buffalo Ave., Niagara Falls, N. Y. **IEN-0884**

HEAT TREATING . . Bath-type carburizing furnaces and materials; chart of case depth vs. time, capacities, replenishment chart. "Saltbath Bulletin", 4 pages. A. F. Holden Co., 458-62 Grand Ave., New Haven 11, Conn. **IEN-0885**

HEATING . . Fin-Pipe elements for space heating with steam or hot water; sizes, selection, mounting, covers, assembly drawing. Bulletin 675, 8 pages. Kritzer Radiant Coils Inc., 2903 W. Lawrence Ave., Chicago 25, Ill. **IEN-0886**

HEATING . . High-frequency induction unit, 20 kw.; condensed specifications, two work setup pictures, vacuum tubes. "Model T-20-3", 4 pages. Lepel High Frequency Laboratories, 37th Ave. & 55th St., Woodside 77, N. Y. **IEN-0887**

HEATING . . "DryRod" electric ovens to keep coated welding electrodes moisture free; use, data and list prices. Pocket folder DR-2, 6 pages. Philip Roden Co., 1721-A E. Lake Bluff Blvd., Milwaukee 11, Wis. **IEN-0888**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write make identify as IEN - 9065

3 REASONS WHY... MAINTENANCE MEN Specify

• PREVENTS JOINTS LEAKING
• PREVENTS STUDS SEIZING
• PREVENTS GASKETS STICKING

PLS is a "Plastic Lead Seal" which prevents leakage under most severe conditions of pressure, temperature vibration, expansion and contraction. Also keeps underground connections leakproof for duration of installation. PLS lubricates threads. It never hardens. It prevents galling and seizure. Insoluble in all petroleum products, steam and water. Underwriters' Approved.

TRY A SAMPLE AT OUR EXPENSE!

JOHN CRANE
CRANE PACKING COMPANY
1563 CUTLER AVE • CHICAGO 32 (ILLINOIS)
Offices in All Principal Cities in United States and Canada

If you write make identify as IEN - 9066

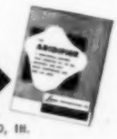
COMPRESSED AIR AND GAS COME OUT OF THE LOGAN
ARIDIFIER
Scrubbed CLEAN AND DRY

INSTALL ARIDIFIERS ON LINES SERVING
- Paint Spray Guns
- Air Tools
- Air Hoists
- Foundry Jogging Machines
- Sand Blasting Tools
- Sand Blasting Rooms
- Metal Spray Guns . . . or Wherever the line must deliver clean, dry air or gas

On any air or gas line 92% of the dirt, oil, scale and water that enter the Aridifier is trapped and removed from circulation. The Aridifier's patented centrifugal-baffle action scrubs air and gas clean and dry . . . protects equipment, prevents freezing, fouling, corrosion and caking, produces best results with spray gun and air tool operations, etc. Easy to install. Self cleaning. Maintains itself. 10 models available. Capacity 7 CFM to 17,000 CFM.

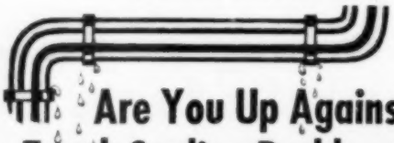
Learn HOW the Aridifier scrubs with a patented centrifugal-baffle action.

Write for This Catalog Now!



Logan ENGINEERING CO.
4902 W. Lawrence Ave., Chicago 30, Ill.

If you write make identify as IEN - 9067



Are You Up Against a Tough Sealing Problem?

Our specialty is ***plastic*** compounds for industry... compounds used for sealing pipe joints, for caulking, bedding, glazing, etc. . . . compounds that withstand high temperatures and all solvents including acids . . . ***plastic*** compounds that STAY ELASTIC giving long service. Write us about YOUR sealing problems. We are equal to any requirements no matter how "special."

ACID RESISTANT CEMENTS
HI-HEAT COMPOUNDS
FURNACE AND BOILER CEMENTS

CHLORO-Seal
Chlorine producers save money using this famous plastic compound for sealing in and out pipe and cover joints in chlorine cell operations. CHLORO-Seal stays ELASTIC. It gives permanent protection — providing a cushion seal that won't crack or chip off due to expansions and contractions. Good for temperatures to 300 F. Try CHLORO-Seal for perfect satisfaction!

The ARMSTRONG COMPANY
241 S. Post Street, Detroit 17, Mich. EST. 1911

If you write make identify as IEN - 9068

WORLD'S FASTEST, SAFEST SCAFFOLDING WACO

ROLLING TOWERS
Speedy and simple for maintenance work!

SECTIONAL SCAFFOLDING
Saves hours in scaffold erection time!

BIG WACO FEATURES!

Only WACO features the original, proven "SPEEDLOCK". Speed, safety and convenience in scaffold assembly.

- Built-in, floating coupling pins
- Built-in ladders
- Pivoted cross-braces
- Heavy duty rubber tire wheels
- Brake-type casters

Phone your local WACO distributor today for a free demonstration. Distributors in all principal U.S. and Canadian cities.

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SALES, RENTALS

WILSON-ALBRECHT CO., INC.
DEPT. R, 3545 WOODDALE AVE.
MINNEAPOLIS 16, MINN.

WACO

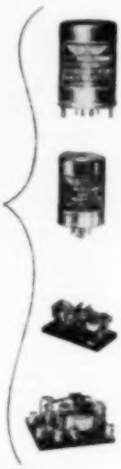
If you write maker identify as IEN - 9069

PROBLEM:

Dependable Circuitry

SOLUTION:

Leach RELAYS



The efficient performance of *Leach Relays* is always at work delivering dependable, crisp, circuit control, infinite versatility and maximum potentials for use. Here at *Leach* you will find complete engineering, testing and production facilities to help you solve your relay problems.

FOR BETTER CONTROLS THROUGH BETTER RELAYS
—Specify Leach

LEACH RELAY CO.

5915 AVALON BOULEVARD, LOS ANGELES 3, CALIFORNIA
Representatives in Principal Cities of U. S. and Canada

If you write maker identify as IEN - 9070

One of the many specific uses of AETNA plywood — rotor blades for the famous Piasecki "HUP" Helicopter now in service with the Navy.

Need Help in Selecting PLYWOOD?

Does your product require some specific characteristic in plywood — perhaps unusual strength, dependable uniformity, light weight, resistance to heat, moisture or acids?

AETNA PLYWOOD & VENEER CO. offers the technical help of their Engineering Staff in all applications of plywood and veneers. These MEN WHO KNOW PLYWOOD have helped industry to a more effective use of plywood by providing up-to-the-minute industrial facts, performance data and design calculations.

Here are 5 reasons why AETNA is the single, most logical source for all your plywood buying:

1 LARGE STOCK on hand, including sizes cut to your specifications.
2 OVER 40 SPECIES—Fir, Gum, Birch, Walnut, etc. in stock 1/16" to 3" thick, 36" x 48" to 48" x 192".
3 MILL SHIPMENTS to your exact requirements.
4 QUICK DELIVERIES from 4 strategically located warehouses—completely stocked.
5 ENGINEERING STAFF to give you solid technical help.

Let AETNA help solve your problems on industrial uses of plywood

★ ★ ★

AETNA PLYWOOD & VENEER CO.
1724 N. Elston Avenue • Chicago 22, Illinois
ARmitage 6-7100

Branch Warehouses: Grand Rapids 7, Mich.; Indianapolis 2, Ind.; Rockford, Ill.

AETNA—PLYWOOD for every purpose

If you write maker identify as IEN - 9072

HANDLING . . Plastic tray set holds small work for piece inspection

Source: DURABLE FORMED PRODUCTS INC.
329 Canal St., 5th Floor, New York 13, N. Y.

To replace wood or metal

Boltaron plastic is employed in manufacture of this new inspection tray set. It consists of one pick-up tray measuring 11 by 9¾ by 1¼ in. and three insert trays measuring 4½ by 4¼ by 1 inch. The set is available in a range of colors to assist in work identification. An inspector is able during quality control procedures to spot check the machined pieces for critical dimensions and to segregate rejects into one of the insert trays.

The plastic is lightweight. It will not chip or contaminate the work. It is resistant to attack by oil, alkalis, solvents. It can be cleaned easily and will stand up under rough service.

If you write maker identify as IEN - 9073

CORROSION PROOFING . . Enamel to surface protect chromium plating

Source: RINSHED-MASON CO.
5933-37 Milford Ave., Detroit 10, Mich.

Technical bulletin contains instructions

Rust-Chek clear synthetic enamel has been developed for surface protection of chromium plated products in which the usual protective coating of nickel has not been applied under the chromium plate. The enamel spreads a protective film over the finished chromium. It is essentially invisible and acts to retain the original chromium luster.

Five formulae are included in the line for high, medium and low baking schedules and for application by hand spray, electrostatic spray or dipping.

If you write maker identify as IEN - 9074

THREADING . . Reversing heads to drive No. 0 to ½ in. taps

Source: ERRINGTON MECHANICAL LABORATORY INC.
22-26 Norwood Ave., Staten Island 4, N. Y.

Celeron plastic cones are employed in the reversing drive machanism in this new No. 000 Cone Drive tapping head. Assembly is in needle bearings at the top and bottom of the main spindle. Free movement between drive and reverse is negligible. Shanks are interchangeable in the body which can be specified with a collet chuck or a Jacobs Rubberflex chuck. List is $55 to $90.

All Makers of Those And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 9075

New - - FROM SKF!

The HESS-BRIGHT Series "SY" Unit Pillow Block!

Here are the design features:

- DuPont Fairprene Red Seal retains lubricant. Wiping action of seal against inner ring is practically frictionless.
- Rotating flingers exclude dirt.
- Set-screws for ease of installation.
- Spherical outer ring compensates for initial misalignment.
- Alemite fitting for re-lubrication.
- Interchangeability with existing installations made possible by bolt hole spacing and center height features.
- Shaft diameters—1-3/16" to 2-15/16".

Contact your SKF Distributor, or write, **SKF INDUSTRIES, INC.**, Philadelphia 32, Pa., for complete details. 7322-C

SKF BALL AND ROLLER BEARINGS **IN EVERY INDUSTRY,**
SKF Puts The Right Bearing in The Right Place

If you write maker identify as IEN - 9076

space saving HV FILTER has longer life greater efficiency

today's best buy is better air!

AAF's new High Velocity filter handles the same air volume in ⅓ the space of standard unit filters. It operates effectively at velocities from 300 to 500 fpm and maintains uniform efficiency over this wide range of velocities. It's the exclusive *pyramid pocket* filtering media that makes the difference!

The H-V's low resistance, large dust capacity and longer life make it a superior unit for limited space conditions.

Available in all standard sizes and 1", 2" and 4" depths. Engineering Bulletin #205 gives complete information and technical data. Write for it today.

AAF American Air Filter COMPANY, INC.
335 Central Avenue, Louisville 8, Ky.
American Air Filter of Canada, Ltd., Montreal, P. Q.
Pacific Division Office, San Francisco, California

If you write maker identify as IEN - 9077

10 TIMES THE WEAR

Work gloves wearing out fast? Get gloves coated with VINYLITE Brand Resins. They'll outlast ordinary types as much as ten to one. And they'll give better protection to workers' hands.

Protection against abrasion, flame, splinters, broken glass . . . Protection against acids, caustics, solvents, oil, water . . . Protection under conditions that wear out ordinary gloves ten times as fast!

Welders or wood choppers—men spraying paint, handling rough steel, concrete blocks, wire . . . all need the protection of these rugged gloves. The flexible, clinging VINYLITE Resin Coating assures a safe, firm grip. It won't crack or peel, sticks fast to glove fabric, permits easy cleaning.

With a wide range of colors, extremely inert, glove coatings are a typical application of the qualities of VINYLITE Resins, so useful to scores of products in defense and basic industry. Coatings based on VINYLITE Brand Resins are easily applied by dip, brush, or spray. They bring long-lasting protection to a variety of surfaces, including metal, concrete and masonry. Their versatile properties may be useful to your operations. Ask us about your specific needs and send for a list of suppliers of gloves coated with VINYLITE Brand Resins. Write Dept. NE-3.

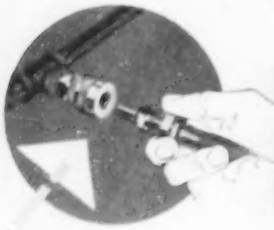
Data courtesy Plastisole Glove Co., Inc.
102 E. Walnut St., Milwaukee 12, Wis.

Vinylite BRAND **RESINS**

TRADE MARK

BAKELITE COMPANY
A Division of
Union Carbide and Carbon Corporation
30 East 42nd Street, New York 17, N. Y.

If you write maker identify as IEN-9079



Quick Acting Couplers

put Air at your fingertips

Plug in compressed air as you would electricity with **Schrader Quick Acting Couplers**. Spot couplers along walls, benches or columns to put air just where it's needed. Plug in your air tools close to the work.

A simple push locks air line in place, automatically starts air flowing. A swivel action prevents hose kinking. Line cannot be accidentally uncoupled—it requires a definite man-made twist on the sleeve. Uncoupling automatically shuts off air.

Available in many sizes, both for standard and heavy duty work. Schrader Quick Acting Couplers make air one of your most useful tools. You'll find full details in the Schrader catalog. Send for it today.

A. SCHRADER'S SON

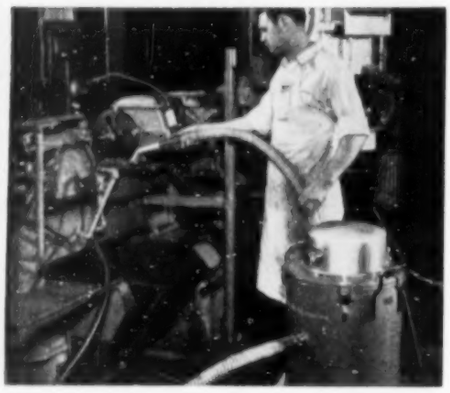
Division of Scovill Manufacturing Company, Incorporated

458 Vanderbilt Ave., Dept. D-35, Brooklyn 17, N. Y.

If you write maker identify as IEN-9080

Economize

on cleaning costs NOW



One worker with one G. E. heavy duty cleaner can clean any surface . . . pick up small scrap for salvage . . . clean high-up, out-of-reach areas quickly and safely. By using a simple attachment, he can clean *wet* surfaces . . . pick up mop water, toilet overflow, drinking fountain leakage, etc.

G. E. industrial cleaners were designed after thorough survey of industrial cleaning needs. That's why G. E. cleaners have so many time and money saving features.

For instance—nozzles are extra wide (12" and 18") to cover big areas quickly. Motors have extra power to pick up industrial scraps or fine dust with equal ease. Each unit converts quickly to powerful blower for collecting coarse litter into convenient piles for easier disposal. These and other features of G. E. cleaners help you get to the root of high cleaning costs—make each of your maintenance workers more productive. **Mail coupon for details.**

Industrial Cleaners

GENERAL ELECTRIC

GENERAL ELECTRIC COMPANY, Dept. 22-5555
1285 Boston Ave., Bridgeport 2, Conn.
Without obligation, please send complete details on heavy-duty cleaning equipment.

NAME

FIRM

ADDRESS

CITY STATE

NEW LITERATURE—Continued

HEATING . . Electric element in modular panel form ready to erect and connect; description, uses in infrared heating, baking, drying. Bulletin CS-605, 6 pages. Edwin L. Wiegand Co., 7505 Thomas Blvd., Pittsburgh 8, Pa. **IEN-0889**

ICE MAKING . . Equipment for ice plants including compressors, tanks, blowers, cake-handling, water-treating units; illustrated data summaries. Bulletin 50-F, 4 pages. Frick Co., 320 Broadway, Waynesboro, Pa. **IEN-0890**

JACKS . . To lift and hold cable reels; descriptions on ratchet and screw types from 5 to 15 ton, also pole-pulling jacks. Bulletin AD-26, 2 pages. Duff-Norton Mfg. Co., 2707-11 Preble Ave., Pittsburgh 30, Pa. **IEN-0891**

LAYOUT . . Scale-size templates on 5,000 machine tools and other equipment for plant layout; list by machine maker, instructions. Booklet, 40 pages. Repro-Templets Inc., River Road & Pennsylvania Ave., Oakmont, Pa. **IEN-0892**

LUBRICATING . . Four materials for die-casting machines; detail descriptions and application instructions. "Die Casting Lubricants", 4 pages. E. F. Houghton & Co., 391-5 W. Lehigh Ave., Philadelphia 33, Pa. **IEN-0893**

MAGNESIUM . . Pictures show its use in aircraft from rocket planes to 180-ton bombers; text describes development of new alloys for jet engines. Form DM-RP-158, 6 pages. Dow Chemical Co., 913-17 Jefferson Ave., Midland, Mich. **IEN-0894**

MARKING . . Self-adhesive tape to write on for labels, markers, inspection stickers, parts identification; sample piece, sizes, colors. Folder S, 6 pages. Labelon Tape Co., 448-52 Atlantic Ave., Rochester 9, N. Y. **IEN-0895**

MARKING . . Hand and pneumatic machines to mark metal parts by a rolling action; operating methods, examples of work and dies. "No. 204 Machine", 4 pages. Jas. H. Matthews & Co., 3948 Forbes St., Pittsburgh 13, Pa. **IEN-0896**

MELTING . . Two-chamber induction furnaces for nonferrous metals; details on stationary and tilting designs, 9 sizes 20 to 125 kw. Bulletin 560, 8 pages. Lindberg Engineering Co., 2456 W. Hubbard St., Chicago 12, Ill. **IEN-0897**

MOTORS . . "Syncrogear" motors, single to triple gear reduction, ¼ to 30 hp., 10 to 10,000 rpm.; design, construction. Bulletin F-1498, 16 pages. U. S. Electrical Motors Inc., 202 E. Slauson Ave., Los Angeles 54, Calif. **IEN-0898**

PANELBOARDS . . Custom-built control panels, instrument panels, switchboards; picture examples, design service. Bulletin PSC-1, 2 pages. Wisconsin Electrical Mfg. Co., 1041-45 W. Clybourn St., Milwaukee 3, Wis. **IEN-0899**

PHOTOGRAPHING . . Cameras, lenses, projectors, enlargers, darkroom equipment; catalog data on standard and laboratory units. Catalog 1051-H, 72 pages. Burke & James Inc., 319-23 S. Wabash Ave., Chicago 4, Ill. **IEN-0900**

PIPE FITTINGS . . Cast brass, in screw, solder, flange and flare types; standard units, dimensions, ratings, list prices, weight tables. Catalog D, 76 pages. Acheson Mfg. Co., 652 Robertshaw Ave., Rankin, Pa. **IEN-0901**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9082

IS THERE A "BEST CHOICE" IN LOCKS?

You bet there is . . . and it's DUO and ILLINOIS locks . . . with hundreds of styles and sizes in cabinet locks for wood or metal installations available for **original equipment** applications.

DUO LOCKS—Finest in lock quality—practically unlimited key specifications—virtually pick proof—non-duplicatable style keys.

ILLINOIS LOCKS—Economy priced cylinder locks—many key changes—construction avoids failure due to dirt or freezing. Illinois lock engineers are always ready to cooperate with you in working out special locking problems. For complete service, call Illinois first.

ILLINOIS

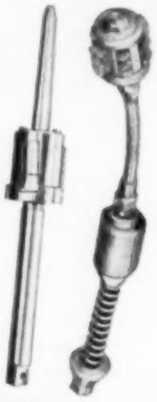
THE ILLINOIS LOCK COMPANY

808 S. ADA ST. • CHICAGO 7, ILL.

If you write maker identify as IEN-9083

Wilsonize

• to *beat* the clock on down-time
• to get *better* tube maintenance



Choked or clogged tubes lower the efficiency of your tubular apparatus . . . result in costly down-time. But with Wilson Tube Cleaners on the job, even the toughest deposits are thoroughly removed from tubes of boilers, heat exchangers, stills, evaporators, etc. Tubes are left spic-and-span, ready for more service. And best of all, Wilson Tube Cleaners do their work in a hurry . . . help you beat the clock on down-time.

You get equally efficient service from Wilson Tube Expanders. They make rolling of new tubes . . . re-rolling of old tubes . . . quick and easy. These precision-manufactured tube expanders insure solid seating. They are available in all sizes, flaring and non-flaring types.

TWO BULLETINS—48-page Catalog describing complete Wilson Tube Cleaner line and up-to-the-minute Tube Expander Catalog—are available. A single request brings both.

THOMAS C. WILSON, INC.
21-11 44th AVENUE, LONG ISLAND CITY 1, N. Y.
CABLE "TUBECLEAN" NEW YORK

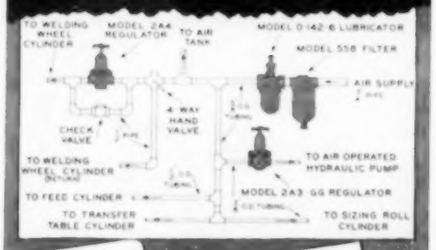
WILSON

TW 787A

WILSON TUBE CLEANERS • WILSON TUBE EXPANDERS

If you write maker identify as IEN-9084

NORGREN OIL FOG LUBRICATION OF CYLINDERS helps National Welder attain 1000-per-hour Output



PLANT REPORT

NATIONAL ELECTRIC WELDING MACHINES CO.

PROBLEM: To provide positive, trouble-free lubrication of 4 air cylinders and one air-operated hydraulic pump for a special 200 KVA Welder which automatically roll-forms, sizes, feeds and mash-seam welds metal containers up to 25" in diameter.

SOLUTION: Use of Norgren Filter, Regulator and Lubricator system which cleans, regulates and lubricates the air used to power the pneumatic units on the Welder.

RESULT: The Norgren equipment provided the efficient, dependable lubrication, air regulation and air cleaning required for continuous high speed operation—thus saves time and money for the National Welder users by reducing maintenance and costly down time, and minimizing the amount of servicing by the manufacturer. National Electric Welding Machine Company says: "We have standardized on Norgren air accessories for nineteen years and have found them to be extremely satisfactory."

FOR DETAILS WRITE FOR NORGREN BLUEPRINT NO. 119-A

FASTER DELIVERY RESULT OF NEW PLANT FACILITIES

Norgren

3432 S. ELATI ST., ENGLEWOOD, IN COLORFUL COLORADO

If you write maker identify as IEN - 9086

New HARTWELL PUSH BUTTON FLUSH LATCH H-4100

Functional First... Attractive Always...

HARTWELL sets a new pattern for the future with efficient, economical *push button* latches that are FLUSH—SELF-CLOSING—EASY TO OPERATE—SIMPLE TO INSTALL.

These modern latches are operated by a natural rotation of the hand for push and lift positive action. As the forward button is depressed, the rear button raises, providing a sturdy grip for opening the door.

Ideal for commercial, industrial, automotive, aircraft, marine and railroad applications.

Write for engineering specifications and counsel.

HARTWELL COMPANY

Manufacturers of Flush Latches and Hinges, Fittings and Cable Terminals.

9035 VENICE BOULEVARD, LOS ANGELES 34, CALIFORNIA

If you write maker identify as IEN - 9087

● Republic's Fairway Brand has a smooth tan cover. Champion is yellow. The one can be used in long continuous lines without couplings. The other is better around certain abrasive influences. Which would you select?

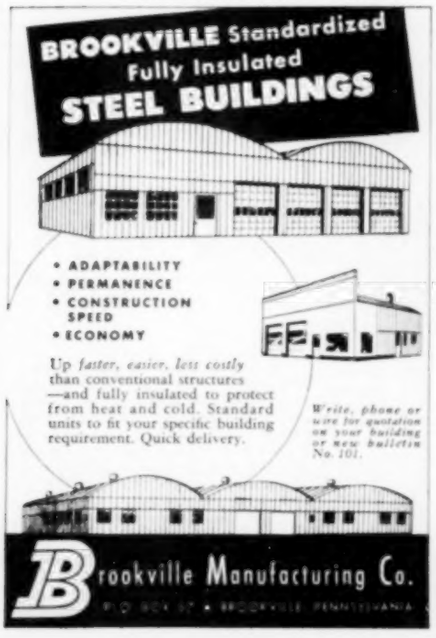
With due respect for your ability, we suggest you don't make the choice. Proper application of any Industrial Rubber Product is a job for an expert.

No one hose can possibly satisfy every job requirement without sacrificing ultimate performance. Contact your local Republic Distributor or write direct for a free analysis of your specific requirements.

Do it now and you'll be certain you're getting maximum performance at minimum cost.

INDUSTRIAL RUBBER PRODUCTS BY
REPUBLIC RUBBER DIVISION
Lee Rubber & Tire Corporation
YOUNGSTOWN, OHIO

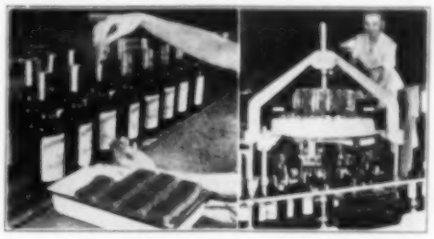
If you write maker identify as IEN - 9088



If you write maker identify as IEN - 9089

SEALING . . Automatic machine applies cellulose bands on bottlenecks

Source: AMERICAN MACHINE & FOUNDRY CO. 511 Fifth Ave., Room 1509, New York 17, N. Y.



It's a "bottleneck" job

A hand operation, shown to the left in the illustration, now can be replaced by a new automatic machine to apply DuPont Cel-O-Seal cellulose bands on bottlenecks at a speed of 50 to 140 bottles per minute depending on the governing speed of the bottle conveyor line in the user's plant. One operator keeps individual magazines filled at the top of the turret assembly where she stands near a control with which the machine can be stopped in an emergency. The bands themselves are applied wet to shrink tightly in place as they dry.

A rotating disc transfers the bottles to the machine's conveyor where they are timed into an intake star wheel for transfer to the turret stations. Round bottles are revolved in these stations until a protruding lug on the back of the bottle strikes a locating point. The bottle is fixed in this position so the tax stamp will appear in a window of the band in correct registering position. After the bottles have traveled around the turret, a rotating disc transfers them back to the mainline conveyor to move to the packing station. The machine will handle round, flat or square bottles.

If you write maker identify as IEN - 9090

CUTTING . . Hand tool makes notch cut in metal moldings

Source: LANDER & ABBOTT 552 Industrial Ave., La Crescenta, Calif.

$12.75 to $16.75 with one die set

The company announces take-over of production and sales of the Metalmitre notching tool, previously described IEN-9806-50. The assembly of toggle handles and jaws take interchangeable die sets to cut 90 and 45-deg. notches and straight slots in various structural shapes with minimum opening at ¼ inch. Metal thickness capacity is to 3/8 in. in soft steel and to 1/16 in. in copper or aluminum. The tool weighs about 2 pounds. Representative die sets are shown.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 9091

THE REVOLUTIONARY ELECTRONIC REMOTE WEIGHT RECORDER

Here is the latest development in the scale and weight printing fields! The Howe Teleprint is available for use with Howe Tape-Drive Dials for Motor Truck Scales. It will record weights on a wide variety of tickets, forms, tapes, and can be located up to 1,000 feet from the scale.

For further information about this most important contribution to increased weighing accuracy — Write for descriptive folder — Teleprint Form No. 601, Dept. IEB.

SALES AND SERVICE BRANCHES IN ALL PRINCIPAL CITIES

The **HOWE SCALE** *Co.*
RUTLAND, VERMONT

If you write maker identify as IEN - 9092

TWO BIG EXTRAS you get in COFFING CHALLENGERS

EXTRA SAFETY You can depend on Coffing Challengers to fully protect men and equipment. All load-holding parts are designed to withstand five times rated capacity of the hoist. Each Challenger is factory tested at 100 percent overload.

LOW COST MAINTENANCE Heavy-duty construction keeps the Coffing Challenger on the job – assures long life. Formed steel housing withstands impact and shock loads as only steel can. And the Challenger may be completely disassembled in minutes with ordinary tools.

For more information on Challengers and other products listed below, write Dept. PSC.

Sold by Distributors Everywhere

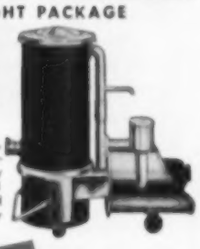
COFFING HOIST COMPANY
DANVILLE, ILLINOIS

Hoist-Alls • Mighty-Midget Pullers • Spur-Gear Hoists • Differential Chain Hoists • Load Binders • I-Beam Trolleys • Quik-Lift Electric Hoists

If you write maker identify as IEN - 9093

HEAVY DUTY POWER IN A LIGHTWEIGHT PACKAGE

WITH SPENCER PORTABLE VACUUM CLEANERS



For heavy duty general cleaning, offices, hallways, laboratories, conference rooms, etc. . . wet pick-up . . . dry mop cleaning . . . 3 models (½, ¾ and 1 H. P.), sturdily built for long, hard service. (Larger machines available for plant use.)

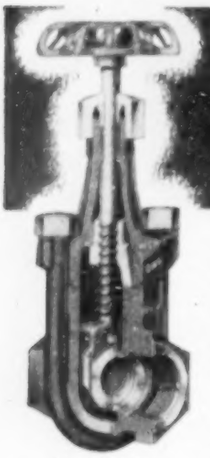
WRITE DEPT. 1E FOR DETAILS

THE SPENCER TURBINE COMPANY • HARTFORD 6, CONNECTICUT

SPENCER HARTFORD

If you write maker identify as IEN - 9094

If you write maker identify as IEN-9095



DESIGNED FOR TROUBLE-FREE SERVICE

JENKINS U-BOLT GATE VALVE

16 Advanced Features

You can't beat the Jenkins U-Bolt Gate for simplified design, rugged construction, and economical maintenance. Removable Bonnet-Saver Bushing can be renewed when threads become worn, restoring entire bonnet to original efficiency. Cleaning is easier with removable bushing.

These features—plus many others—make the Jenkins U-Bolt Gate a favorite for any services where extra endurance and easy maintenance are essential. Jenkins Bros., 100 Park Ave., New York 17

Sizes—¼" to 3" Bronze Mounted or All Iron

Complete details and specifications on request

LOOK FOR THIS DIAMOND MARK

JENKINS VALVES

TYPES, SIZES, PRESSURES, METALS FOR EVERY NEED

If you write maker identify as IEN-9096

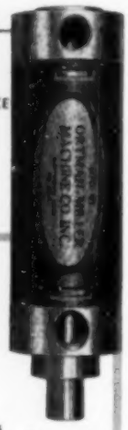
30 DAY DELIVERY

HOW TO SPEED PRODUCTION

HOW TO SAVE ⅓ INSTALLATION SPACE

HOW TO GET MORE BORE POWER

HOW TO SAVE MONEY



Use Dependable, Powerful

O-M CYLINDERS

AIR—WATER—HYDRAULIC

In full range of sizes (1½" to 8" bores). All machined steel with bearing bronze throughout. Interchangeable parts and mounting brackets.

FREE CATALOG Brand new! 28 pages of specifications, diagrams, and parts listing.

Free Templates Complete set. Show all cylinders and mounting brackets. ½ or ¼ scale.

Write today to

ORTMAN MILLER MACHINE CO.

1208 150th St., Hammond, Indiana

If you write maker identify as IEN-9097

ONLY...

VB Liquid Honing

CAN PROVE THESE RECORDS!

- CUTTING TOOLS — Cutting life increases up to 400%!
- DRAW DIES — made longer runs, saves time after VB Liquid Honing.
- DIE CASTING DIES — Produced more shots per cleaning!
- MOULDS — VB Liquid Honing cuts refinishing, cleaning labor and time to fractions!

Vapor Blast Model 2820 Type B 20 — new small model for toolroom use. Other models available. Special purpose machines designed and built for every need.

FACTS prove VAPOR BLAST LIQUID HONING advantages and savings to customers in all industries. Check the Coupon!

VAPOR BLAST MFG. COMPANY

Pioneer and Leader in Precision Surface Finishing Techniques

Dept. I, 5025 W. Atkinson Ave., Milwaukee 16, Wis.

Send details on VB Liquid Honing!

Our products _____

Firm _____

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City _____ State _____

VB Liquid Honing EQUIPMENT

NEW LITERATURE—Continued

PIPE FITTINGS . . Corrugated expansion joints for pipe to 48 in.; data on three designs including one with 5,500 lb. pressure rating. Catalog CMH-119-R, 8 pages. Flexonics Corp., 1333 S. Third Ave., Maywood, Ill. **IEN-0902**

PIPE FITTINGS . . Coupling to join ends of unthreaded pipe and permit misalignment to 7 degrees; dimensions on straight, angle, adapter units. Bulletin, 4 pages. Quik-Joint Mfg. Co., 652 Thomas Ave., Harvey, Ill. **IEN-0903**

PRESS TOOLS . . Die cushions, overload release pitman; description on these and small-lot stamping and plastic-molding service. Catalog, 12 pages. Dayton Rogers Mfg. Co., 2822-26 13th Ave. S., Minneapolis 7, Minn. **IEN-0904**

PRESS TOOLS . . Punches and dies for hand, foot and power presses; sizes and list prices on round, square, specials; press brake dies. Die Catalog, 32 pages. Federal Machinery Co., 132-36 Grand St., New York 13, N. Y. **IEN-0905**

PROCESSING . . Fourdrinier paper-making machines; detail description on major components and drive, also on company and facilities. General Catalog, 106 pages. Bagley & Sewall, 652 Sewall Island, Watertown, N. Y. **IEN-0906**

PULVERIZING . . Machines to handle a variety of materials, 1 to 30 hp. in five sizes; flow chart on four stages, installation diagrams. "Pulverizers", 4 pages. Mead Mill Co., 14618 E. 7-Mile Road, Detroit 5, Mich. **IEN-0907**

PUMPS . . Type-U reciprocating pump for metering and proportioning service, one to four feed assemblies; selection data, uses, prices. Catalog UP-52, 24 pages. Hills-McCanna Co., 2347 W. Nelson St., Chicago 18, Ill. **IEN-0908**

PUMPS . . Rotary-piston pump with capacity control at constant speed, 20 to 200 gpm.; operation, ratings, calculations. "Tri-Rotor Pumps", 38 pages. Yale & Towne Mfg. Co., Cedar & Henry Sts., Stamford, Conn. **IEN-0909**

RECORD KEEPING . . Schedule-board, punched-card and other equipment for production control; how it is used in one plant. Bulletin S-1754, 6 pages. Remington Rand Inc., 315 Fourth Ave., Rm. 1618, New York 10, N. Y. **IEN-0910**

RECORD KEEPING . . Carbon-interleaved printed forms for business records, also a visitor-pass record for defense plants; list prices. "Fifty Ways", 16 pages. Alfred Allen Watts Co., 218 William St., New York 38, N. Y. **IEN-0911**

RECTIFYING . . Selenium power rectifiers, ¾ to 500 kw. at 110 to 550-volt dc. output; construction, performance, specification table. "Power Conversion Units", 4 pages. Syntron Co., 410 Lexington Ave., Homer City, Pa. **IEN-0912**

RESISTORS . . "Vitrohm" vitreous-enameled wire-wound units; quick-selector chart, data on stock and special types, engineering information. Catalog 15, 68 pages. Ward Leonard Electric Co., 29-33 South St., Mt. Vernon, N. Y. **IEN-0913**

RHEOSTATS . . 167 stock types for military use, ¼ to 4 watts; resistance ranges, shaft designs, characteristics. Sheet 162, 4 pages. Chicago Telephone Supply Co., 1140-44 Beardsley Ave., Elkhart, Ind. **IEN-0914**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9098

COSMOLINE COATED GUN COMPLETELY DEGREASED

IN LESS THAN 4 MINUTES

Four 20mm. guns heavily coated with Cosmoline are raised from the degreaser in a clean, dry condition, ready for subsequent operations.

WITH A PHILLIPS *Electric* VAPOR DEGREASER

HERE was a really tough metal cleaning problem. Cline Electric Manufacturing Company, Chicago, had to remove Cosmoline from 20mm. guns before modification operations on the guns. Cline purchased a Phillips electric batch-type degreaser to handle the job. As a result sixteen guns are being degreased per hour at a savings of 85% on cleaning costs per gun.

Here is another instance of how Phillips degreasers cut costs through faster, more thorough, more economical metal cleaning. For the answer to your degreasing problems, check with Phillips.

SEND FOR YOUR FREE COPY OF NEW ILLUSTRATED DEGREASER BULLETIN

Phillips MANUFACTURING COMPANY

3461 Touhy Avenue • Chicago 45, Illinois

Engineered Metal Cleaning Equipment

If you write maker identify as IEN-9099

PORTABLE!

PRACTICAL!

PROFITABLE!

Union Special SUSPENDED HEAD

BAG CLOSING MACHINES

Portability, versatility, and simplicity of operation make Union Special Suspended Head Machines ideal for all-around bag closing operations in small plants, and well-suited for utility or stand-by duty in large plants. Users have found that machines can be used to produce neat, strong closures on virtually all types of paper or cloth bags. Initial cost is low; installation is simple and inexpensive. You can hang them up any place and go to work!

Send for this NEW BULLETIN!

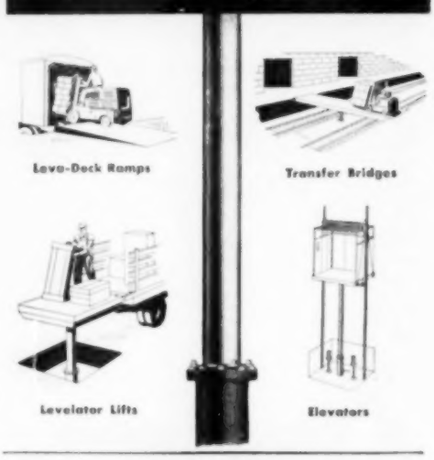
Get your copy of Bulletin No. 200 containing illustrations and helpful data charts for the complete Union Special line of bag closing machines. UNION SPECIAL MACHINE CO., 410 N. Franklin St., Chicago 10, Ill.

If you write maker identify as IEN-9100

Rotary

OILDRAULIC POWER

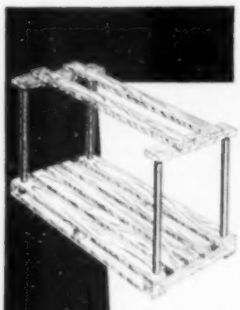
Cuts the cost of lifting heavy loads



Write for catalogs

ROTARY LIFT CO. • 1173 KENTUCKY, MEMPHIS 2, TENN.

If you write maker identify as IEN-9101



NATIONAL

Develops Revolutionary

NEW, RIGID RACK PALLET

Serving Industries' Largest Users of Pallets from Coast-to-Coast & Border-to-Border

Stacks better — without sway . . . More Accessible—more usable space—no cross braces . . . No special pipe necessary — use your own rejects and buy National base and top; can be used for regular Pallet when not in Rack service . . . Ideal for storage and handling of speed boats, maps, pails, furnace units, tires, furniture. Costs about ⅓ the price of other Pipe Rack Pallets.

Wire, phone or write today for complete technical data. Dept. E.N.

NATIONAL PALLET CORP.

MAIN OFFICES: OLIVER BLDG. PITTSBURGH 22, PA.

If you write maker identify as IEN-9102

Speedex Automatic WIRE STRIPPER

MODEL No. 744-I

★ ONE HAND OPERATION
★ LIGHT WEIGHT
★ SIMPLE TO USE

A heavy duty, automatic wire stripper with a delayed action release which prevents wires from being crushed. Strips wire sizes No. 8 to 30 . . . weighs but 12 ounces. Standard models also available.

NET PRICE ONLY $4.95 ($8.25 LIST)

SEE YOUR DISTRIBUTOR OR WRITE FOR LITERATURE AND COMPLETE INFORMATION.

WOOD SPECIALTY *Manufacturing Co.*

909 Taylor Avenue, Rockford, Illinois

If you write maker identify as IEN-9103

Presto . . . it's UP!

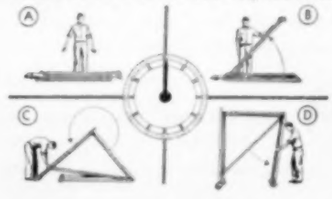
25 ft. "UP-RIGHT" SCAFFOLD-ON-WHEELS

Set up in only 5 minutes!

As if by magic, an aluminum alloy tower of any height desired is ready in minutes! Individual scaffold sections are set one on top of the other. Sections lock into place instantly. The tower rolls down aisles . . . straddles machinery.

HERE'S THE SECRET!... Patented ONE-PIECE SECTIONS

Each one-piece section is unfolded by one man in less than a minute! No tools, wing nuts or bolts.



WRITE FOR DESCRIPTIVE BULLETIN

"UP-RIGHT" SCAFFOLDS

DEPARTMENT 142 • 1013 PARDEE STREET • BERKELEY, CALIFORNIA
Factories: Berkeley, Calif. and Teterboro, N. J.
Offices in all principal cities

If you write maker identify as IEN-9105

GAGE . . Electronic instrument to read thickness of sheet materials

Source: BRANSON INSTRUMENTS INC.
431 Fairfield Ave., Stamford, Conn.

Employs noiseless sound

New design of the search head employed in the company's ultrasonic Audigage to measure metal thickness permits application of this instrument, previously described IEN-1420-49, in locations ordinarily difficult to reach. The head now includes a flat spring with an Alnico permanent magnet coupled flexibly to each end. The magnets have sufficient strength to hold the head correctly against the test surface. A flexible lead reaches from the head to the instrument carried by the operator. Thickness can be measured with access to one side only of materials such as aluminum, copper, glass, steel, plastics.

Operation employs supersonic vibration to energize a crystal in the search head and transmit the vibration into the material. Controls are adjusted until the circuit has been tuned to a resonant frequency. At this point a meter provides a reading that is converted to thickness by reference to a chart. At the same time an audible signal indicates the instrument is set for reading. Batteries provide the operating power for a thickness range from $\frac{1}{16}$ to 12 in. based on steel that is free from internal flaws. Instrument dimensions are 8 by 12 by 13 inches. Weight is 23 pounds.

If you write maker identify as IEN-9106

CLEANING . . Air jet machine blows debris from wood containers

Source: STANDARD-KNAPP
152 Main St., Portland, Conn.

For a bottling line

Spiral track and lug equipped chain conveyor are assembled inside the rectangular housing of this new machine for connection to incoming and outgoing conveyor lines. Wood containers such as those employed in handling bottles ride into the machine, are picked up by the chain conveyor and carried up into inverted position where they ride a pair of guide rails as the conveyor moves them.

In this position jets of air are directed into the interior to blow out any debris that does not fall out by gravity. The cleaned containers then continue around the circle for discharge to the take off conveyor. Plastic-window doors are employed on the two sides. At the center of the circle is a hopper opening in which the cleaned out materials collect for discharge to the rear into a suitable receptacle.

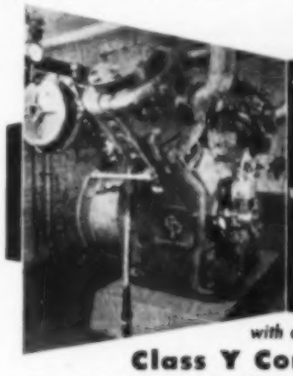
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9107

Whatever your spring wire requirements—consult with Seneca! Our production *geared to precision* in manufacturing oil tempered and hard drawn wire—round and flat—for all types of high grade mechanical springs. Seneca uniformity and dependability help the spring manufacturer produce high quality springs at low cost. Write . . . Seneca Wire & Mfg. Company, Fostoria, Ohio. Representatives in principal cities.

SENECA ROUND AND FLAT SPRING WIRE
WIRE & MFG. COMPANY • FOSTORIA, OHIO

If you write maker identify as IEN-9108



with a

Class Y Compressor

Extremely compact. Needs only simple foundation. Shipped intact as a "package" requiring only external connections. Easy and inexpensive to install. For continuous, heavy-duty service; special CP features assure high efficiency, low maintenance.

Sizes: 75 hp. to 250 hp., 500 cfm to 1663 cfm. Direct-connected, flange-mounted synchronous or squirrel cage motor. Write for Bulletin 766.

CHICAGO PNEUMATIC TOOL COMPANY

If you write maker identify as IEN-9109

Improved Method Centrifugal SPRAY DRYER and CONCENTRATOR*

CONTRACT DRYING

We invite inquiries for Contract Drying in our fully equipped, Stainless Steel Plant in Chicago. Shipments can be made direct to our Railroad Switch Track or Truck Docks.

THE DRYING AND CONCENTRATING COMPANY DRYER

Improved method for **DEHYDRATING**

Solutions, emulsions and materials which can be handled in a liquid form including:

Chemicals
Pharmaceuticals
Milk Products
Blood or Blood Plasma
Soups, Vegetables, etc.

This complete spray drying plant employs a unique centrifugal-type spray head, and consists of a Drying Chamber, Concentrator, Air Heating Unit, Air Filter, Air Supply Fan, Powder Cooler and Sanitary Pumps with variable speed drives for handling the liquid material and controlling the moisture.

*CONCENTRATOR AVAILABLE SEPARATELY

The Concentrator can be operated as a separate unit for reducing liquid products to almost any desired degree of concentration, almost instantaneously, retaining natural flavors and vitamins.

3038

DRYING and CONCENTRATING CO.
333 NORTH MICHIGAN AVENUE, CHICAGO, ILLINOIS

If you write maker identify as IEN-9110

ONE STYLE PALLET with Gerrard Steel Strapping fits a variety of shipping needs!

Photo courtesy of International Harvester Company, Industrial Power Division

● As the picture shows, a pallet of standard members and dimensions can easily be adapted for handling a wide variety of tractor parts in interplant shipment. It is easy to make pallets of two, three, four or five layers, depending on the size of the parts to be palletized. And all pallets are reinforced with a single Gerrard Machine and 10 gauge Gerrard Round Steel Strapping. The uniformity of this palletizing system helps keep pallet costs down.

The strength and toughness of Gerrard Steel Strapping assures safe arrival of materials at their destination. Gerrard Strapping complies fully with Army-Navy specifications JAN-P-106A, JAN-P-107 and JAN-P-108 for overseas packing.

A Gerrard engineer will help you devise a system of palletizing to fit your requirements. He will show you why it will pay you to choose the Gerrard Method of Strapping as your reinforcement. Gerrard Steel Strapping costs about 60% less than any other type of metal reinforcement. Contact a Gerrard engineer for details.

GERRARD STEEL STRAPPING DIVISION
UNITED STATES STEEL COMPANY
4717 S. Richmond St., Chicago 32, Ill.

U·S·S GERRARD ROUND STEEL STRAPPING

UNITED STATES STEEL

If you write maker identify as IEN-9111

BETTER SEEING TOOLS FOR INDUSTRY

FOSTORIA LOCALITES INCREASE WORKERS' EFFICIENCY

Light the Vital Seeing Zone on Machine Tools, Inspection and Assembly Benches

MODEL 3267-M-174

$6.12 EACH in pkg. of 6 Single Units $7.65 ea.

Overall length 32¾". Three instantly adjustable joints. Flat oblong base for machine screw mounting.

- Rugged Construction withstands vibration and rough handling
- Instantly Adjustable with flexible ball and socket joints
- Baked Enamel Finish — Exterior, Smooth Gray — Reflector Interior high temperature White
- Reflector accommodates 100 watt or any A-19 or A-21 medium screw base lamp
- Wired Complete with switch socket and 8 ft. oil resistant cord and moulded plug

WRITE FOR COMPLETE CATALOG of Localite models with various type reflectors, arms and bases for every industrial use.

LOCALITE fostoria for Light ON the Job

THE FOSTORIA PRESSED STEEL CORPORATION FOSTORIA, OHIO

Localites are available through electrical wholesalers everywhere.

If you write maker identify as IEN-9112

Here's BIG NEWS ON Blast Cleaning Dust Control Precision Finishing

Blast Cleaning Unit is PORTABLE!

Ideal for maintenance and many other jobs, including removal of rust, dirt, scale, etc. Economically cleans large objects like tanks, bridges, structural work before painting. Six sizes, stationary or portable, from $170.00 and up.

Hydro-Finish SPEEDS POLISHING!

Removes scale and directional grinding lines . . . prepares surfaces for plating and holds tolerances to .0001". Liquid blast reduces costly hand cleaning and finishing of molds, dies, tools, etc. Models from $1410.00 and up.

STOP DUST at the SOURCE!

Pangborn industrial type Unit Dust Collectors trap dust at source. Machine wear is minimized, housekeeping and maintenance costs reduced. Solves many grinding and polishing nuisances and material losses. Models from $286.00 up.

COMPACT Blast Cabinet for SMALL WORK!

Ideal for producing clean, smooth surfaces on pieces up to 60" x 36" in size. Cleans metal parts, removes rust, scale, grime, dirt, paint, etc., in a few seconds. Saves money all year round. Models from $319.00 and up.

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control Equipment

Pangborn MAIL COUPON FOR DETAILS

Check for more information
- Blast Cleaning Cabinets
- Blast Cleaning Machines
- Unit Dust Collectors
- Hydro-Finish Cabinets

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.

Gentlemen: Please send me more information on the equipment I've checked at the left.

Name.....

Company.....

Address.....

City..... Zone.... State.....

NEW LITERATURE—Continued

SAWING . . Portable electric saw; details on its "magic pivot" design, weight and performance chart on three models. Bulletin PT-62, 4 pages. Cummins-Chicago Corp., 4738-48 N. Ravenswood Ave., Chicago 40, Ill. **IEN-0915**

SEPARATING . . "Liqui-Jector" to remove water or oil-water emulsions from compressed-air lines; operating schematic, models, ratings. Bulletin SC-1007, 4 pages. Selas Corp., 552 E. Erie Ave., Philadelphia 34, Pa. **IEN-0916**

STORING . . Elevated steel water tanks, sizes 5,000 to 3,000,000 gal.; installation pictures and dimensions on five major types. Bulletin 101, 20 pages. Pittsburgh-Des Moines Steel Co., 3484 Neville Island, Pittsburgh 25, Pa. **IEN-0917**

SWITCHES . . Rotary units, originally for electric range use, also open-coil electric heating elements and dryers; descriptions, ratings. Catalog 1, 12 sheets. Ferro Electric Products, 652 Ferro Ave., Kirkland, Ill. **IEN-0918**

SWITCHGEAR . . "Essco" switchboards, control panels, special assemblies for 250 to 5,000-volt service; review of components, examples. Bulletin 521, 8 pages. Electric Service Engineering Co., 8-12 Third Ave., Joliet, Ill. **IEN-0919**

TACHOMETERS . . Multi-range switchboard indicator unit to connect electrically to a remote head; description, selection data. Leaflet 42-P, 2 pages. Metron Instrument Co., 430-34 Lincoln St., Denver 9, Colo. **IEN-0920**

TAPES . . "Scotch" pressure-sensitive tapes, listed according to the Government specifications they meet; data summaries. Bulletin P-B(USG), 16 pages. Minnesota Mining & Mfg. Co., 902 Fauquier St., St. Paul 6, Minn. **IEN-0921**

THERMOCOUPLES . . Standard assemblies and parts; data on noble and base-metal types, selection instructions, well materials. Catalog EN-82, 48 pages. Leeds & Northrup Co., 4954 Stenton Ave., Philadelphia 44, Pa. **IEN-0922**

THERMOCOUPLES . . Also radiation detectors, resistance bulbs, accessories; catalog data, selection, temperature- millivolt calibration tables. Bulletin TC-9, 42 pages. Wheelco Instruments, 1312-16 Rock St., Rockford, Ill. **IEN-0923**

THREADING . . Tapping head, standard and reversing, No. 0 to ¾ in.; sectional drawing and how-it-works description, performance. Folder, "S. P. V.", 8 pages. Eric S. Johnson Co., 228-32 E. Ohio St., Chicago 11, Ill. **IEN-0924**

THREADING . . Hand and machine screw taps, No. 3 to 1 in. in cut-thread type; dimensional tables and tolerances, point designs. Bulletin 541, 12 pages. Pratt & Whitney, 49 Charter Oak Blvd., West Hartford 1, Conn. **IEN-0925**

THREADING . . Type-JT floating tap holder; data on basic holder and collet bushings for taps to ¾ in., list prices. Leaflet, "JT Tap Holders", 2 pages. Scully-Jones & Co., 1936 S. Rockwell St., Chicago 8, Ill. **IEN-0926**

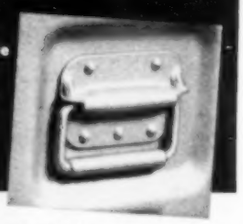
TRANSFORMERS . . How hermetic-sealed MIL-T-27 specification units are made is shown by pictures from coil windings to final testing. Bulletin GEA-5778, 8 pages. General Electric Co., Dept. 6X-201, Schenectady 5, N. Y. **IEN-0927**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 59

If you write maker identify as IEN-9114

Best handle . . . by far!

- Rugged • No Rattle
- Rust-proof
- Built to Military Specifications



Attention manufacturers of portable equipment, carrying cases, parts boxes, etc.! If your product requires side-carry handles, install the best—the Bendix-Friez handle. This superior handle was developed to meet strict military requirements for many specialized equipment uses. Ruggedly built of aluminum and stainless steel in a sturdy design, it knows no equal for long, faithful service. Can be riveted or welded to any kind of container . . . or depressed in the surface, if desired. Unique "snap-back" feature stops rattle from shock and vibration. Prompt attention to both large and small lot orders. Try us today.

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BENDIX FRIEZ Bendix-Friez

FRIEZ INSTRUMENT DIVISION OF Bendix AVIATION CORPORATION

1334 Taylor Avenue, Baltimore 4, Maryland

Export Sales: Bendix International Division, 72 Fifth Avenue, New York 11, N. Y.

If you write maker identify as IEN-9115

OZITE all-hair felt has an outstanding record for solving problems of cushioning, padding, thermal and sound insulation. Our research and engineering staff are ready to give you competent assistance should you have any problems in these or similar applications.

OZITE felt in standard weights and thicknesses meets most production requirements. Special weights and thicknesses; as well as paper, cloth, or foil backings and stitched reinforcements may be had in production quantities.

Write today for OZITE bulletin No. 1500. If you desire samples for test, simply send a brief description of your application.

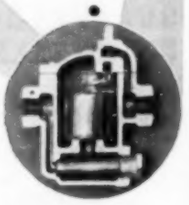
AMERICAN HAIR & FELT CO.

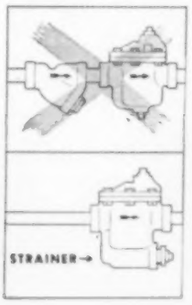
Dept. X28, Merchandise Mart Chicago 54, Illinois

If you write maker identify as IEN-9116

NEW STEAM TRAPS WITH BUILT-IN STRAINERS SAVE YOU MONEY

TWO NEW ARMSTRONG MODELS ARE NOW AVAILABLE





NO longer need you install a strainer ahead of steam traps draining smaller sized equipment—urns, kettles, steamers, cookers, etc.—nor take a chance on unprotected traps clogging when dirt and scale conditions are bad.

New Armstrong Trap Model No. 880 for the smallest equipment, or No. 881 for slightly larger drainage requirements have the strainer built right in the trap body. A separate strainer, extra fittings and considerable installation labor is thereby eliminated. Look over your small trap applications and order the traps you need now from your local Armstrong Representative's stock.

ARMSTRONG STEAM TRAP

ARMSTRONG MACHINE WORKS

888 Maple Street, Three Rivers, Mich.

SEND FOR THE STEAM TRAP BOOK

Learn Why Armstrongs Save Fuel, Get Equipment Hotter, Faster, Save Labor and Time.

If you write maker identify as IEN-9118

if...

—YOU cut steel to irregular shapes of all kinds . . . circles . . . squares . . . rectangles . . . straight lines with square or beveled edges . . .

—YOU demand precision, production line shape cutting . . .

—YOU work with steel plates, slabs, billets, or forgings . . . in metal up to 6-inches or more in thickness . . .

Then you'll want this easy-reading 12-page Airco No. 50 Travograph booklet. Just pick up your pen and send us your request on your business letterhead today. Address: Advertising Department, Air Reduction Sales Company, 60 East 42nd Street, New York 17, N. Y.

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If you write maker identify as IEN-9119

Tests prove NE "Lo-Loss" Feeder Busway has lowest energy loss per 100 foot run. Power experts agree it's the finest in the field for long runs—either vertical or horizontal—in plants, factories and large office buildings.

You Get these BIG features—

- Designed for current transmission up to 4000 amperes at 600 volts or less.
- Easy to install because single bolt connectors are used to join sections. Joints are silver-plated.
- Compact—Requires only 50% of the area needed for conduit and cable installations.
- On vertical installations, exclusive self-contained insulator support frame carries entire weight of bus bars independent of housing.
- Simple, accessible bolted connections which allow for quick and easy installation.
- Bus bars insulated with Fibron plastic tape. High dielectric strength and heat resistance.

NE "PLUG-IN" BUSWAY

Plug-in openings, staggered on two sides, permit insertion of devices convenient to equipment.

Listed by Underwriters' Laboratories, Inc.
Write for complete details

EVERYTHING IN WIRING POINTS TO

National Electric Products
PITTSBURGH, PA.
3 Plants • 6 Warehouses • 42 Sales Offices

If you write maker identify as IEN-9121

GEAR CUTTING . . Shaping machine, 1 to 10 in. work, to 4½ in. width

Source: MICHIGAN TOOL CO.
7169-73 E. McNichols Road, Detroit 12, Mich.

For a production line

Model 18105 replaces a previous Model-18103 machine in the company's Shear-Speed line of gear shaping machines. The Series-1800 line now includes four models with capacities ranging from 1 to 10 in. in diameter with maximum face width ranging from 2¾ to 4½ inches. The machines will cut spur, involute, angular, straight-side and inverted splines, sliding clutches, toothed parts, ratchets and special forms.

A standard adjusting ring controls tooth spacing. An air cylinder in the cutting head holds the work in the fixture and pilots moving parts into the base for positive alignment. Coolant and lubricating pumps are mounted outside the machine base. Gages and relief valves on the lubricating pump permit observation and control of lubricant flow. Hand wheels replace previous ratchet mechanism to remove and replace the cutter head.

The main hydraulic cylinder that moves the head into position is designed to assist in head removal and replacement. Compensating type taper wedges lock the head in cutting position. They replace previous eccentric bushings. Two rest plates prevent head deflection. The mechanical drive has been strengthened by using splines and square shafts instead of keys. Non-flare JIC hydraulic fittings are employed in the oil circuits. The hydraulic control panel has been redesigned to meet JIC Specifications.

If you write maker identify as IEN-9122

CLEANING . . Rotary brush machine to scrub, wax and polish a floor

Source: LINCOLN-SCHLUETER FLOOR MACHINERY CO.
1248-52 W. Van Buren, Dept. IEN-PR, Chicago 7, Ill.

Controlled at handle

Fluid container that mounts on the steering handle and connects by hose to an opening above the brush has been added to the company's rotary brush machine, previously described IEN-7078-51. The machine is now suited for both wet and dry operation. It mounts a 19-in. brush which operates at 190 rpm. The ¼-hp. continuous-duty motor connects to a 110-volt single-phase 60-cycle ac. power supply.

The retractable wheels at the rear lift from the floor when the handle is lifted. The handle itself is adjustable in length. Interchangeable accessories include a steel-wool pad holder and steel-wool pad, a sheep's wool pad, combination sanding-polishing disc, split-feed shower brush for wet operation, grinding and polishing disc and a wire brush. Brushes of other types are also available to specification. A rubber bumper with a molded rib at the back is part of the standard equipment. Motor bearings are factory lubricated and sealed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9123

Unbrako Socket Head Cap Screw made by SPS, Jenkintown, Pa.

USE JOMAC®
INDUSTRIAL WORK GLOVES

Guard your workers' hands with Jomacs. Made of Jomac Cloth—the better thick, uncut, twisted loop pile fabric. They outlast ordinary work gloves by 700 percent.

WASHABLE • FLEXIBLE • INTERCHANGEABLE • CUT, HEAT AND COLD RESISTANT
Write for samples and prices—describe intended use
C. WALKER JONES CO., PHILADELPHIA 38, PA.

If you write maker identify as IEN-9124

What Answers Can You Come Up With?

by Utilizing FULLERGRIPT

GRINDER SHROUD devised from Fullergript brush strip by maker of vertical die and surface grinder . . . concentrates coolant and protects operator from spray.

REMOVING GLOSS from molded counter top accomplished by buffing cylinder with widely-spaced but spiralled Fullergript brush strips. Engineering trick was to work out angle of spiral giving an even buff.

NEW ANSWERS to puzzling problems can often be found with the brushing action of Fullergript strips. You are introduced to new vistas of mechanical possibilities. And our engineers will work with you. Simply write and ask for information from . . .

FULLER BRUSH FULLERGRIPT

At home... in business, too

THE FULLER BRUSH CO., INDUSTRIAL DIV., 3583 MAIN ST., HARTFORD 2, CONN.

If you write maker identify as IEN-9125

Let PANGBORN Solve your Blast Cleaning Problem!

BATCH Cleaning: For top-economy batch cleaning specify Pangborn ROTOBLAST* Barrels. Sizes available from 3½ to 28 cubic feet. All models have push-button operation, automatic abrasive recovery and automatic loading device.

SEMI-CONTINUOUS Cleaning: Specify Pangborn ROTOBLAST* Tables. Type LF cleans flat castings; type LG cleans intricate pieces. Type LH, with two tables, lets operator load one table while work is cleaned on the other.

CONTINUOUS Cleaning: Pangborn Continuous-Flo ROTOBLAST* Barrels and one man provide uninterrupted cleaning. Loading and unloading is automatic, work is cleaned as it moves through Barrel.

Pangborn offers ROTOBLAST* equipment for every cleaning need. Full details on Tables, Barrels, Table-Rooms and Rooms are included in Bulletin 214. For your free copy *Mail Coupon Today!*

Look to Pangborn for the latest developments in Blast Cleaning and Dust Control equipment.

Pangborn *Trademark of Pangborn Corporation

BLAST CLEANS CHEAPER with the right equipment for every job.

PANGBORN CORP., 2300 Pangborn Blvd., Hagerstown, Md.
Gentlemen: Please send me Bulletin 214 without obligation.

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Company.....
Address.....
City.....Zone.....State.....

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FOR LESS THAN $500 YOU CAN SOLVE YOUR SMALL PRODUCTION PROBLEMS WITH THE MODEL G5S

PRATER PULVERIZER

Prater Pulverizer, Model G5S with motor, coupling and base

LUMPY CHEMICALS, SOAP, GLUE and many other materials can be reduced to uniform granulation in this Model G5S Prater Pulverizer! Low in price . . . compact and sturdy in structure . . . it does an economical, efficient job on low-volume grinding. Built with the same high standards of quality and workmanship as larger Prater models.

5 to 7½ horsepower. Write for details and prices.

PRATER

PRATER PULVERIZER COMPANY
1530 So. 55th Court, Chicago 50, Ill.

If you write maker identify as IEN-9128

4-WAY SOLENOID OPERATED AIR-VALVE only $32.50

For Fast Operation of Cylinders up to 3" Diameter

Compact sturdy construction, precision engineered for long, uninterrupted heavy duty operation.

Has small, well protected solenoid—operates small cylinders up to 3" dia. and larger cylinders where unusual speeds are not required.

Quantity and O.E.M. discounts. Write for description, discounts, etc.

IMMEDIATE DELIVERY

3-WAY VALVE
Same Design
only $19.80

AUTOMATIC VALVE CO.
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USE WIPING CLOTHS?

This ad can save you money!

Order 100 lb. Bale of "Grease-King" Cotton Mesh Wipers at 16¢ lb.

10% Discount if Ordered Prior to August 31

- Soft, lightweight cotton mesh
- One material throughout — not a mixed grade
- Size approximately 24" x 36"
- Thoroughly absorbent, soaks up grease at once

Satisfaction Guaranteed! Return for Refund if Dissatisfied

Mail coupon promptly to get the benefit of this 10% discount which usually applies only on orders for 500 pounds or more! Grease King wipers are washed and sterilized in our own modern industrial laundry, are uniform in size and quality, and a sensational value. Thousands of satisfied users throughout the country.

CHARLES BELSKY & SONS, INC.
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Please ship at once 100 lb. bale of Readywipe GREASE KING wipers. This order dated _____ is subject to 10% discount.

NAME _____
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CITY _____ STATE _____

THIS OFFER EXPIRES AUGUST 31.

NEW LITERATURE—Concluded

TRUCKS . . "Spacemaster" electric fork trucks, ½ to 2 ton; specifications, battery chart, attachments and uses. Catalog 32, 20 pages. Lewis-Shepard Products Inc., 190 Walnut St., Dept. R-1, Watertown 72, Mass. **IEN-0928**

TRUCKS . . Electric fork lift trucks, electric and gasoline tractors, trailers; specifications, attachments, applications. Bulletin 300, 44 pages. Mercury Mfg. Co., 4132 S. Halsted St., Dept. 141, Chicago 9, Ill. **IEN-0929**

TRUCKS . . Electric fork lift truck for tiering service in 6-ft. aisles; data on standard and telescoping models, 2,000-lb. capacity. Bulletin 730, 2 pages. Raymond Corp., 3591 Madison St., Greene, N. Y. **IEN-0930**

TRUCKS . . Power units, gasoline or diesel, to replace battery on electric trucks; picture review on available models and their uses. Bulletin 99-Rev., 8 pages. Ready-Power Co., 3839 Grand River Ave., Detroit 8, Mich. **IEN-0931**

TRUCKS . . "Worksaver" MT operator-walk electric tractor, 200-lb. normal drawbar pull; specifications, diagram. Booklet P-966, 4 pages. Yale & Towne Mfg. Co., 11002 Roosevelt Blvd., Philadelphia 15, Pa. **IEN-0932**

TUBES . . Use cold-drawn carbon-steel tube for hollow precision parts is suggested, mechanical properties and tolerances summarized. Bulletin TB-339, 4 pages. Babcock & Wilcox Co., 4027-31 Fourth Ave., Beaver Falls, Pa. **IEN-0933**

TUBE FITTINGS . . Quick-disconnect couplings, standard and self-sealing; sizes, ratings, also hose couplings, valves, strainers. Catalog R-200, 20 pages. Roylyn Inc., 1704-8 Standard Ave., Glendale 1, Calif. **IEN-0934**

TUMBLING . . Burnishing machines for small parts; construction points, dimension table on six sizes, notes on barrel materials. Bulletin BB-52, 2 pages. Tumb-L-Matic Inc., 4508-12 Bullard Ave., New York 70, N. Y. **IEN-0935**

VALVES . . Altitude control valves for tank and reservoir use; installation arrangement diagrams, types and sizes. Bulletin W-4, 16 pages. Golden-Anderson Valve Specialty Co., 2079 Keenan Bldg., Pittsburgh 22, Pa. **IEN-0936**

VENTILATING . . "Meco" portable man-cooling fans, 30 to 48 in., also exhaust fans, 27 to 72 in.; specification table, examples of use. Bulletin 100, 4 pages. Manufacturers Equipment Co., 208 Madeira Ave., Dayton 4, Ohio **IEN-0937**

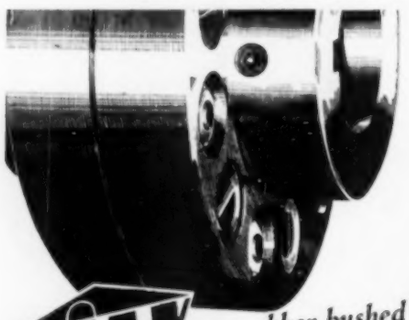
VISES . . Machinist, sheet-metal, pipe, positioning, drill-press and woodworker types; descriptions, sizes, construction features. Catalog 60, 24 pages. Desmond-Stephan Mfg. Co., 315-9 S. Walnut St., Urbana, Ohio **IEN-0938**

WELDING . . Helmets, handshields, other clothing, also electrode holders, cover glass, cable connectors; descriptive data. Catalog 24, 48 pages. Fibre-Metal Products Co., 567 Tilghman St., Chester, Pa. **IEN-0939**

WIRE CLOTH . . By the roll or as fabricated parts; illustrated production facilities, examples of weave types and typical parts made. Bulletin 106, 4 pages. Cambridge Wire Cloth Co., Vienna Road, Cambridge, Md. **IEN-0940**

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9130



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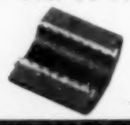
Standard of Industry For Over 30 Years

Safeguard bearings, gears, armatures, impellers and other costly working parts. Combine positive drive with resilient flexibility. Write for catalog.



AJAX FLEXIBLE COUPLING CO. INC.
Incorporated 1920
WESTFIELD, NEW YORK

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there's a way around this IRON CURTAIN

Don't put up with business blockades caused by overloaded or obsolete internal communications. AMPLICALL Electronic Intercommunication takes down the "Iron Curtains" in *your* business—provides *2-second speech contact* within and between departments—leaves switchboards clear for important outside calls—keeps personnel *on the job*—gets business done faster! Today, more than ever, your business needs AMPLICALL—the superior Intercommunication System.

ELECTRONIC AMPLICALL INTERCOMMUNICATION

See Your Phone Book

For your nearest AMPLICALL specialist, look under "Intercommunication" in your classified 'phone directory, or write direct.

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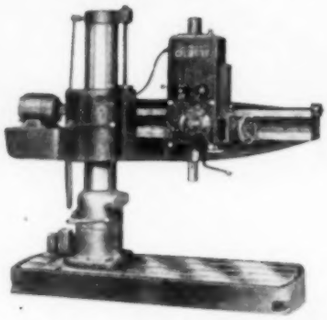
SOUND EQUIPMENT Rauland INTER-COMMUNICATION

RAULAND-BORG CORPORATION • 3523-K ADDISON ST., CHICAGO 18, ILL.

If you write maker identify as IEN-9132

good head for fast work



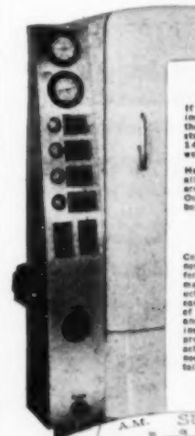
This head lets you see what you're doing; keeps controls at the comfort level; responds quickly with minimum effort. Correct gear ratio makes manual head traversing easy, lets you spot the head right on the "O". Gilbert "heft" in the right places minimizes deflection, holds accuracy even when drilling large work at outside limits of head and arm travel. Write for new Bulletin No. 349. *Those who buy Gilbert buy Gilbert again.*

THE CINCINNATI GILBERT MACHINE TOOL COMPANY
3366 BEEKMAN ST. • CINCINNATI 23, OHIO

RADIALS
BORING MILLS
ACCESSORIES

If you write maker identify as IEN-9133

HUMIDITY



Within 1° Wet Bulb

If controlled air conditions are necessary for some important testing and research, here is a cabinet that provides 6 cubic feet of controlled air in constant circulation. Within the range of 40° F. to 140° F. this cabinet will maintain both dry and wet bulb temperature within 1° F.

Heating and cooling, humidifying and drying, are all controlled automatically and uniform conditions are maintained as long as the unit is in operation. Outside indicators reveal the conditions inside the box at all times.

AIRE-REGULATOR

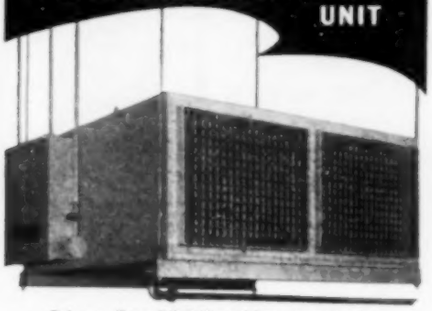
Constant Temperature and Humidity Cabinets are now in use by prominent laboratories in many lines for testing and research. Among the users are food manufacturers of all kinds producing bakery products, flour, packaged mixes, cheese, yeast, beer, candy and meat products; others are manufacturers of pharmaceuticals, photographic supplies, paints and varnishes, chemicals, insulating materials, instruments, bee board, paper tape and crude oil products. Wherever there is a need for checking the action of temperatures and humidity there is a need for an Aire-Regulator. Write for bulletins and tell us your requirements.

FOOD TECHNOLOGY INC.
5921 Northwest Highway
Chicago 31, Illinois

FOOD TECHNOLOGY, INC.

If you write maker identify as IEN-9134

INDUSTRIAL HUMIDIFYING UNIT



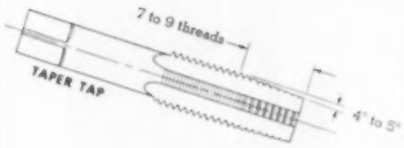
Bahnson Type BA-2 Humidifier—completely self contained, including fans, motors, humidifiers, 4-way adjustable grilles, and automatic humidity control. Requires only power supply line, water supply and drain lines for installation. Eliminators remove excess free moisture. Delivers approximately 4000 CFM and evaporates up to 10 GPH.

The Bahnson Company
ENGINEERS AND MANUFACTURERS
WINSTON-SALEM, N. C.

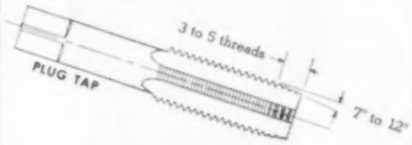
If you write maker identify as IEN-9135

USE THE RIGHT TAP

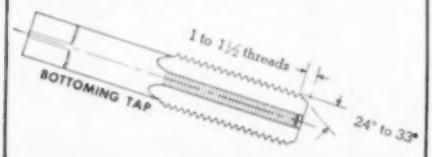
(HOW TO DO MORE TAPPING WITH FEWER TAPS)



TAPER POINT TAPS ARE FOR USE IN THROUGH HOLES. LONG CHAMFER HELPS STRAIGHT STARTING AND DISTRIBUTES CUTTING LOAD.



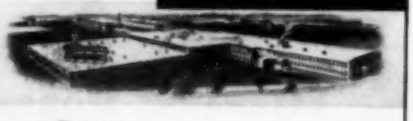
PLUG POINT TAPS ARE THE MOST COMMONLY USED FOR AVERAGE PRODUCTION. CAN BE USED IN TAPPING THROUGH HOLES OR IN BLIND HOLES IF ENOUGH CLEARANCE IS ALLOWED IN THE BOTTOMS OF THE HOLES.



BOTTOMING TAPS ARE FOR USE IN BLIND HOLES WHERE IT IS NECESSARY TO THREAD ALL THE WAY TO THE BOTTOM.

THREAD MORE HOLES WITH FEWER TAPS INSIST ON . . .

HY-PRO TAPS



HY-PRO TOOL COMPANY
NEW BEDFORD, MASS., U. S. A.

If you write maker identify as IEN-9137

CONVEYING . . Tramrail track for rolling live loads to 1,000 pounds

Source: FORKER CORP.
2033 Random Road, Cleveland 6, Ohio

Free action on curves

Teenail B-2800 is a new 6.9 lb. per foot track section for overhead suspension on spacings ranging from 15 to 150 in. depending upon the load to be carried. The track is intended for live loads ranging from 500 to 1,000 lb. to supplement the heavier Beamrail section which rates to 6,000 pounds. Tread width is the same in the lighter section so it can be used in existing installations. Four-wheel trolleys and crane hand trucks with wheel bases ranging from 4 to 72 in. are available to distribute a load.

The new rail is available in 20-ft. straight lengths and also in 30, 45, 60 and 90 deg. curves with radius ranging from 30 to 120 inches. Material is carbon manganese steel.

If you write maker identify as IEN-9138

EXTINGUISHING . . Grounded horn for carbon dioxide extinguishers

Source: AMERICAN-LA FRANCE-FOAMITE CORP.
903 Erie St., Elmira, N. Y.

For units above 5 pounds

Anti-Statik trade names a new molded plastic discharge horn for the company's carbon dioxide fire extinguishers. It is characterized by a pair of copper conductor strips extending along the inside surface of the horn where they are molded in place.

The strips are electrically bonded through the nozzle and the metal braid of the hose to the carbon dioxide cylinder. Static is carried away as rapidly as it is produced by the frictional action of the discharging gas.

If you write maker identify as IEN-9139

DRILLING . . Solid carbide unit, special to drill a 0.022 in. hole

Source: RAYMAC MFG. CO.
3728 Cass Ave., Detroit 1, Mich.

To order

The new drill shown in the illustration is a special design by the company made of solid carbide measuring 1¼ in. in overall length. It includes a taper shank a little under 1 in. in length with diameter at the shank end measuring 0.070 inch. Length of the spiral fluted drill end is 5/8 inch. Drill diameter is 0.022 inch. The drill is typical in the company's line of special solid carbide drills, end mills, rotary files.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9140

Resistance Measurements Direct-Reading from 100,000 Ohms to One Million Megohms

for Measurements on ★ Generators, Motors, Transformers ★ Capacitors, Single Conductors, Cables ★ Changes in Volume Resistivity with Temperature & Humidity ★ Paper Capacitors ★ Slabs of Insulating Material ★ Dielectric Absorption in Electrical Machinery ★ Long Sections of High Voltage Cable ★ Multi-Wire Cable

The G-R Type 544-B Megohm Bridge is ideal for all of these measurements. Over the range of 100,000 ohms to 10,000 megohms the effective dial scale-length is 35 inches!

The accuracy of measurement varies from ±3% from 0.1 megohm to 100 megohms, to ±10% from 1,000 megohms to 10,000 megohms.

Two models are available: an a-c operated instrument delivering d-c test voltages of 500 and 100 volts to the bridge, and a battery-operated model delivering 90 volts.

The voltage applied to the unknown is very close to constant regardless of the value of the unknown.

Write for Complete Data

Type 544-BA Megohm Bridge (with a-c supply) . . . $340
Type 544-BB Megohm Bridge (with d-c supply) . . . $250

GENERAL RADIO Company, 275 Massachusetts Ave., Cambridge 39, Mass.
90 West St., NEW YORK 6; 920 South St., Aurora Ave., CHICAGO 5; 1000 North Seward St., LOS ANGELES 38

If you write maker identify as IEN-9141

DE WALT "3 adjustment action" assures easier, faster performance!

for
- PLANT MAINTENANCE
- PATTERN SHOPS
- CRATING AND BOXING
- CONSTRUCTION WORK

Here's the ideal, all-purpose machine to streamline your cutting operations, help to increase production and cut costs.

De Walt's "3 adjustment action" allows you to position saw for any desired operation . . . in seconds!

You can make 15 set-ups, 15 different cuts . . . in less than 15 minutes! You get precision, speed, complete safety. A De Walt does the work of many machines—takes up the space of one.

Write for catalog to: De Walt Inc., Dept. E-6, Lancaster, Pa.

De Walt Inc. DE WALT Lancaster, Pa.
POWER SAWS
Subsidiary of AMERICAN MACHINE AND FOUNDRY COMPANY, New York

If you write maker identify as IEN-9142

NEW

CONDENSED TECHNICAL DATA ON ALLOY MECHANICAL TUBING

Condensed information on microstructure, critical points, effect of alloy elements, forging, machining, welding and thermal treatment for 25 alloy steels.

write for...

- Bulletin TDC 141—Medium-carbon grades (Full-hardening)
- Bulletin TDC 149—Low-carbon grades (Carburizing)

TA-1673G

THE BABCOCK & WILCOX COMPANY
TUBULAR PRODUCTS DIVISION
General Offices, Beaver Falls, Penna
Plant, Beaver Falls, Penna and Alliance, Ohio

If you write maker identify as IEN-9143

Look!

THE NEW **BAKER TYPE FS** gives you the most material handling you can get for your money in a **2000 POUND FORK TRUCK**

Here's Why:

IT'S BUILT to take PUNISHMENT!
All-Steel welded frame; powerful Baker motors; efficient worm-drive power axle; dynamic-braking, 2-drum, 5 speed, NO Plug controller—all components are of the same basic construction as in our heavy-duty equipment for capacities up to 10,000 pounds.

It's the most MANEUVERABLE Truck in its class!
An FS with 36-inch forks can make a "U" turn in an 8½-foot aisle! It can stack a 48-inch load at right angles to a 10-foot aisle without sacrificing stability.

IT'S ECONOMICAL!
100% functional design means that every dollar you invest goes to work for you. You save on operating and on maintenance costs. *The FS is always on the job!* By any standard you apply, the FS is the best buy in its class.

All the features engineered into the outstanding Baker Type FS, 2000-pound Fork Truck are described in an illustrated 8-page specification bulletin. • Write for your copy.

THE BAKER-RAULANG CO.
1226 WEST 80th STREET, CLEVELAND 2, OHIO

Baker INDUSTRIAL TRUCKS

If you write maker identify as IEN-9144

For toolroom grinding that's **high, wide,** and **handsome**

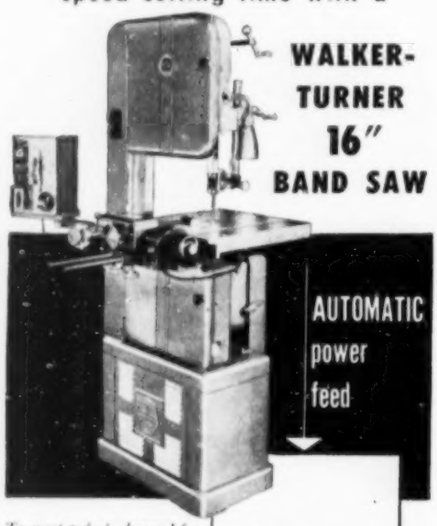
Among all toolroom surface grinders, the ABRASIVE No. 1½ is unsurpassed for capacity and for ability to produce fine surface finishes. It handles flat, form, and gage grinding in sizes up to 15" long x 10" wide x 12" high. Fast, convenient hand feeds together with precision vertical adjustment make the No. 1½ a big favorite with toolmakers everywhere. Extra heavy construction insures complete rigidity and smooth operation on every job. Send for illustrated Catalog and complete details. Abrasive Machine Tool Company, 18 Dunellen Rd., East Providence 14, Rhode Island.

Abrasive Quality is Reflected in the Finish of Your Product

ABRASIVE
MACHINE TOOLS PRODUCTION

If you write maker identify as IEN-9145

Even unskilled operators can speed cutting time with a



To meet today's demand for accurate and faster production, put the new Walker-Turner 16" Band Saw to work in your shop. Any operator, even unskilled labor, can quickly learn to handle these metal and woodworking machines. Built to simplify cutting operations, they're *fast, accurate, safe, easy to handle.*

The automatic Power Feed, a patented Walker-Turner feature, insures protection against overloading the blade—maintains a pre-set feeding pressure for sharper cutting—affords longer blade life.

Find out more about this practical way to increase output while reducing production costs.

Ask your distributor for full information about this and other Walker-Turner Power Tools for metal, plastic and woodworking operations. Or mail coupon today for complete catalog.

SOLD ONLY THROUGH AUTHORIZED DEALERS

WALKER-TURNER
KEARNEY AND TRECKER CORPORATION
PLAINFIELD, N. J.

DRILL PRESSES • JOINTERS
TABLE SAWS • BAND SAWS
BELT and DISC SURFACERS
JIG SAWS • RADIAL SAWS
LATHES • TILTING ARBOR SAWS

Walker-Turner Division, Kearney & Trecker Corp.
Dept. IE4, Plainfield, N. J.
Please send me the new Walker-Turner Machine Catalog.
Name
Title
Company
Address
City Zone State

If you write maker identify as IEN-9147

PUMP . . Miniature centrifugal with float control handles condensate

Source: SAMUEL S. GELBER CO.
160-64 N. Clinton St., Chicago 6, Ill.

For "little drops of water"

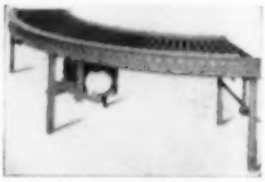
Bronze pump, 1/50-hp. 110-volt single phase motor and float operated motor control are assembled in a plastic cover on a 1-pt. glass jar in this new miniature pump. Overall diameter is 3½ inches. Overall height is 7½ inches. Weight is 2½ pounds.

The pump will handle 1.25 gpm. on free delivery. It has been designed to dispose of condensate as it collects from refrigeration equipment. The liquid is connected to drip or flow into the jar where it raises the float, tilts the mercury switch in the motor control and starts the motor. As the float returns to the bottom of its movement the switch opens the motor circuit and the pump stops. Outlet connection is threaded for ¼-in. pipe.

If you write maker identify as IEN-9148

CONVEYING . . Live roller curve employs chain to drive the rollers

Source: SAMUEL OLSON MFG. CO.
2420-22 Bloomingdale Ave., Chicago 47, Ill.



Motor drives the chain

The rollers in this new curve section are equipped with rubber bushings at their outer ends to ride on top plates carried by a chain. It is mounted to travel around the outside perimeter of the assembled curve. Contact between the bushings and the plates causes the rollers to turn as the chain moves along. Driving contact increases as weight on the rollers is increased. Operating speed is to about 120 feet per minute.

Tapered or straight rollers can be specified, the former in widths of 12 to 18 in. with outside radius at a little over 4 ft., or 20 to 24 in. with the outside radius about 5½ feet. Curve sections with straight rollers can be supplied.

If you write maker identify as IEN-9149

FASTENINGS . . Revised American standard on square and hexagon bolts and nuts presented by ASME

American Society of Mechanical Engineers
29 W. 39th St., New York 18, N. Y.

Three-nation standardization of bolts and nuts is presented in recently revised American Standard ASA B18.2-1952 on hexagon and square bolts and nuts, hexagon cap screws, square-head set screws, lag bolts. List price of the 36-page booklet is $2 with cover. Instructions on how to use the information accompany drawings and tables of dimensions.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN-9150

READ AIR VELOCITIES
instantly... accurately... anywhere...

. . . WITH THE

ALNOR VELOMETER

Alnor Velometer, a precision-built, self-contained, portable instrument, gives you instant, accurate readings of air velocities anywhere—in plants, mines, mills or laboratories. Measures speed of air flow through ducts, grilles, furnaces, spray booths or in the open. This rugged instrument needs no special care or delicate handling—anyone can use it and get accurate readings. Needs no calculations or reference charts. Available in a wide variety of scale ranges, and with a full assortment of jets and fittings for every application. You'll want full details and prices, so write for Bulletin 2448-G, Illinois Testing Laboratories, Inc., Room 517, 420 No. La Salle St., Chicago 10, Ill.

Alnor PRECISION INSTRUMENTS FOR EVERY INDUSTRY

If you write maker identify as IEN-9151

"Lung Power" that must not fail

Here's a "lung"—for aircraft engines—that must inhale up to 30,000 pounds of air per hour. Producing such a fuel-injection body—that never coughs, never leaks—calls for *Lycoming precision production.*

Perhaps you have some specialized need that can benefit from Lycoming skill and resourcefulness.

Whether you require precision machining, high-volume production, product development, or air-cooled power for aircraft or ground applications—look to Lycoming!

AIR-COOLED ENGINES FOR AIRCRAFT AND INDUSTRIAL USES. PRECISION AND VOLUME MACHINE PARTS, GRAY IRON CASTINGS, STEEL PLATE FABRICATION

LOOK TO LYCOMING FOR RESEARCH, FOR PRECISION PRODUCTION.

Lycoming Spencer Division, Williamsport, Pa.
Bridgeport Lycoming Division, Stratford, Conn.
AVCO MANUFACTURING CORPORATION

If you write maker identify as IEN-9152

FAIRBANKS-MORSE,
a name worth remembering

ELECTRIC MOTORS AND GENERATORS • MAGNETOS • PUMPS
DIESEL LOCOMOTIVES AND DIESEL ENGINES • FARM MACHINERY
SCALES • RAIL CARS • HOME WATER SERVICE EQUIPMENT

If you write maker identify as IEN-9155

HOW TO MAKE 1 SINGLE CIRCUIT DO THE WORK OF 2

CHARG-O-MATIC

Motor Generator Battery Charger

DOUBLE THE CAPACITY of your Charg-O-Matic "KX" or "HX" single-circuit battery charger—at a fraction of the cost of an additional charger! Hertner's new Double Duty Charge Control Unit, mounted on your Charg-O-Matic, makes this easy.

You plug in two truck batteries **at once**. Each is individually charged. When the first is recharged, it is automatically disconnected and the same cycle is repeated for the second. When both are fully charged, motor generator automatically shuts down, with no further attention. Begin recharging at end of a day. By tomorrow morning you'll have **two** battery-powered trucks back in operation.

Specify a Double Duty unit when ordering your new "HX" or "KX" Charg-O-Matic, or mount a Double-Duty Unit on your present "HX" or "KX" Charg-O-Matic (if manufactured after Dec. 1, 1949). Either way, you'll **double** the usefulness of your battery-charging equipment.

For additional information on the "HX" or "KX" Charg-O-Matic with Double Duty Unit call in your nearest electric truck representative, or write direct for bulletin No. 2018.

THE HERTNER ELECTRIC COMPANY
12690 ELMWOOD AVE. • CLEVELAND 11, OHIO
A General Precision Equipment Corporation Subsidiary
MOTORS • MOTOR-GENERATORS • GENERATOR SETS
Representatives in Principal Cities

If you write maker identify as IEN-9156

CHASE

RED TYE Drawstring Bags

Fine quality cotton bags for mailing and storage of small parts and samples. Also twin mailers with envelope for letter and sturdy cotton bag for sample or part. There is a Red Tye parts bag, and mailing bag for just about every need. Write us today for information. Your inquiry will be given prompt attention.

CHASE 18-82 BAGS

CHASE BAG CO.
General Sales Offices:
309 West Jackson Boulevard
Chicago 6, Ill.

If you write maker identify as IEN-9157

Relays BY GUARDIAN

Series 220 A.C.

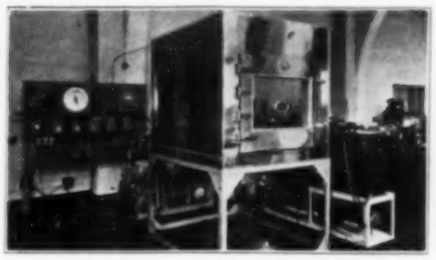
The superior performance of "air-raid" and fire alarm sirens controlled by the Guardian Series 220 A.C. Relay, is known the world over. The Series 220 A.C. Relay provides contact combinations up to S.P.S.T. and is furnished *hermetically sealed* or with open-type mounting. The Guardian Series 5 D.C. Relay (with cover) is especially adapted to electronic tube plate circuits for photocell operation in bell-ringing, flood-lighting and coded ticker-tape fire and burglar alarm central systems. It has successfully followed 20 contacts per second for high speed counting, telephone dialing, timing and lighting control. We invite you—write for full details.

GUARDIAN ELECTRIC
1620-J W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN INDUSTRY

If you write maker identify as IEN-9158

TESTING . . Temperature cabinet cycles minus 165 to plus 250 deg. F.

Source: WEBBER APPLIANCE CO.
2738-42 Madison Ave., Indianapolis 3, Ind.



Alternately hot and cold

Cooling coils served by refrigerating equipment and strip heating elements are mounted adjacent to each other around the interior of this new temperature cabinet. Inside dimensions of the test area are 36 by 30 by 30 inches. A hinged door at the front is provided with a window so an operator can observe the progress of a test on equipment being subjected to alternate heat and cold.

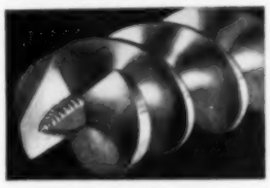
Construction includes provision for automatic removal of the refrigerant from the cooling coil before the heating cycle begins and prevention of the return of the refrigerant until temperature has been reduced sufficiently to remove any danger in the operation.

Equipment includes a control panel shown to the left in the illustration which regulates and records the cycling operation. The required test chamber controls are assembled in the unit to the right where the recording equipment also is located. In a test run the equipment was cycled from minus 80 to plus 200 deg. F. in 47 minutes. It was cycled back to minus 80 deg F. in 105 min. as an example of performance.

If you write maker identify as IEN-9159

WOODWORKING . . Power drill bit, eleven sizes, 1/4 to 1 inch diameter

Source: STANLEY TOOLS
478-82 Myrtle St., New Britain, Conn.



For soft or hard wood

Type 100ED is a new power drill bit in the company's Russell Jennings line. It is characterized by its combination of brad and screw point and its single shortened spur that assists in balancing the cutting action.

The point is combined into a specially pitched thread that, on one side, pulls the bit into the wood and on the other side permits the operator to release the bit instantly by a slight pull back on the drill spindle. Single units list at $1.10 to $2.80. Two kits are available respectively with 5 and 8 bits from 1/4 to 1/2 in. and from 1/4 to 1 in. at list prices of $7.15 and $15.25.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9160

LIFTS MORE . . . PULLS MORE . . . IN A HURRY!

All-around handiness and efficiency make 'Tugit' industry's favorite portable tool for lifting car wheels . . . for placing pipe . . . for uprooting stumps . . . for spotting components in assembly . . . for stretching cable, guy wire and belts . . . for thousands of other load-handling jobs.

'Tugit' is light, compact — fits any tool box. Operation is smooth and fast at any angle, even where work space is cramped. It has efficient spur gears and automatic load brake like a 'Budgit' Hoist. A 40-lb pull on the lever lifts a 1-ton load. Control is accurate — 1-ton loads can be moved as little as 1/32" at a time.

'Tugit' is made in 1- and 2-ton sizes. Bulletin No. 388 tells all about it. Write for a copy.

'TUGIT'® HOISTS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

Builders of "Shaw-Box" Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves and 'American' Industrial Instruments.

If you write maker identify as IEN-9161

NEW DATA SHEETS

give you useful ideas about Lightweight Schedule 5 Pipe

SAVE MONEY (up to 50%) and conserve Stainless Steel by getting the facts about this newest of Stainless Pipe schedules.

To find out how Schedule 5 gives improved flow conditions *at less cost*, drop us a line. We will gladly put your Schedule 5 Data Sheets in the mail.

THE CARPENTER STEEL COMPANY
Alloy Tube Division, Springfield Road, Union, N. J.

for your process piping file

If you write maker identify as IEN-9162

New MHS Liftveyor ready to go to work for you *anywhere*

Liftveyor is a complete unit ready for service.

You don't have to be a mechanic to set it up or to move it.

Incorporates the latest design ideas all proven in actual service.

Sturdy and dependable without being cumbersome.

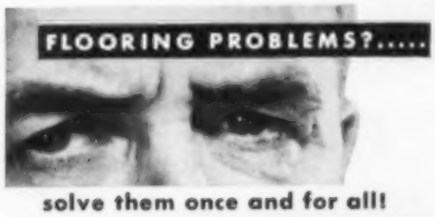
Engineered by conveyor specialists with more than 30 years of materials handling experience.

ASK FOR INFORMATION ALSO ON
Roller conveyors — Horizontal belt conveyors
Live roller conveyors — Overhead conveyors
Complete handling systems

Mechanical Handling *Systems, Inc.*
4605 NANCY AVE. • DETROIT 12, MICH.
Offices in Principal Cities
In Canada: Canadian Mechanical Handling Systems, Ltd.

If you write maker identify as IEN-9163

FLOORING PROBLEMS?.....



solve them once and for all!

SEND TODAY FOR YOUR FREE COPY

INSTRUCTIONS *for laying* KLEMP HEXTEEL and FLOORSTEEL

the miracle floor base that adds years of life!

When mastic or concrete is poured into the mesh of either of these rugged floor armors, industries are constantly writing "period" to previous flooring problems. Truck wheel pounding doesn't break up a Klemp armored floor!

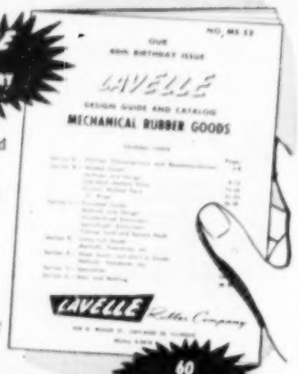
The Klemp instruction booklet is written to help you make a thorough analysis of your own particular flooring problems. Before making further arrangements, take advantage of Klemp's free engineering services. Many nationally known companies have followed this practice, and, as a result, floors reinforced with HEXTEEL or FLOORSTEEL are still in perfect condition after 25 years.

KLEMP METAL GRATING CORP.
Executive Offices: 1375 North Branch Street, Chicago 22, Illinois

If you write make identify as IEN - 9164

INDUSTRY HAS NEVER SEEN ANYTHING LIKE IT!

LAVELLE 40th ANNIVERSARY ISSUE



Characteristics And Recommended Usage For Natural And Synthetic Rubber Polymers, And Complete Design Data On Mechanical Rubber Specialties!

60 PAGES

LAVELLE Rubber Company

1811 WEST HUBBARD STREET, CHICAGO 22, ILLINOIS

If you write make identify as IEN - 9165

Drill Hardened Steels without Annealing –

USE The New IMPROVED "HARDSTEEL" DRILL

With the new, improved "HARDSTEEL" Drill, you can do accurate, smooth drilling, countersinking, counterboring and reaming in steels hardened by any process without first annealing the work. And they work with equal ease on work-hardening steels and high carbon–high chrome steels of any degree of hardness.

"HARDSTEEL" Drills fit standard drill presses. They save time and reduce rejects. They permit engineering changes requiring additional drilling after hardening. And parts drilled after hardening always match at assembly.

Write for a copy of the "HARDSTEEL" Operators Manual showing how "HARDSTEEL" drills are cutting costs in thousands of plants.

You Harden It—We'll Drill It— With "HARDSTEEL"

BLACK DRILL COMPANY, Inc.
Division Black Industries
1370 East 222nd St. • Cleveland 17, Ohio

Also makers of— BLACK DRILLING UNITS—AUTOMATIC, SELF-CONTAINED— FOR COST-CUTTING PRODUCTION ON ALL MATERIALS
Write for information

If you write make identify as IEN - 9166

FEL-PRO offers engineering help ...on GASKETING problems

that extends from **DESIGN**

and **MATERIAL SELECTION**

to the **FINAL INSTALLATION**

FEL-PRO's gasketing service is *complete!* When you call on FEL-PRO you get the benefit of more than 30 years' experience in gasketing skill. You get help in the design of specialized gaskets, help in the selection of a wide variety of gasketing materials to best suit your needs, and finally, help in the proper installation and handling of gaskets and packings. This complete engineering service is your assurance of high performance standards and maximum economy. FEL-PRO invites your inquiries on any gasketing problem.

FELT PRODUCTS MFG. CO. 1523 Carroll Avenue, Chicago 7, Illinois
Warehouses in: Atlanta, Boston, New York, Los Angeles, Oakland, Portland

FEL-PRO Utilize Newest Materials ENGINEERED Specifically designed for your product **gaskets**

If you write make identify as IEN - 9167

ELEVATOR . . Crane truck rides operator on level platform

Source: YALE & TOWNE MFG. CO.
11002 Roosevelt Blvd., Philadelphia 15, Pa.

No ladders needed

Overhead work such as lamp cleaning and replacement is handled quickly and efficiently with this new combination of the company's 3-ton electric crane truck and a self-leveling platform for two-man operation. One rides the truck, raises, lowers and swings the crane boom. The other operates from the platform for the overhead work.

The boom can be extended to 19 ft. and can be swung in a 270 deg. arc. Operation is outdoors as shown in the illustration or in machine aisles through which the truck can be driven. The platform is designed to carry tools and supplies.

If you write make identify as IEN - 9168

TESTING . . Circuit glow lamp is combined with clip equipped pencil

Source: I. IRVING WEISSLER CO.
148-52 Montague St., Brooklyn 2, N. Y.

Single unit is $1.45

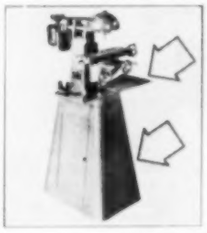
Neon Glow is a new circuit tester pencil that combines a neon glow lamp and test leads to check fuses, outlets, appliances and grounds in circuits from 90 to 550 volts with a standard magazine pencil. The tester forms the rear portion of the barrel with the leads concealed inside until this portion is unscrewed. The pencil forms the forward portion.

The center part of the barrel can be heat stamped or printed with any specified identification or message when the unit is to be distributed as a premium or a gift.

If you write make identify as IEN - 9169

MILLING . . Pedestal base and pen to floor mount Benchmaster machine

Source: BENCHMASTER MFG. CO.
1833-37 W. Rosecrans Ave., Gardena, Calif.



Pedestal base standing 30 in. in height mounts a 10½ by 18-in. top plate on which to secure the company's standard Benchmaster milling machine. Dimensions at the floor are 18 by 26 inches. A door in the side of the pedestal measures 11½ by 22 inches. A new steel splash tray has been designed also to fit to the machine base and divert coolant to the sump return. Edges of this tray are rolled and beaded. Flanges are provided to fasten it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write make identify as IEN - 9170

REALOCK FENCE means what it says

Realock Fence provides real locked-in protection for your grounds and property. All fittings have bolts placed so that nuts are removable only from the inside ...thereby insuring safety from intruders.

Realock Fence is heavily galvanized by a special process...gives weather-resistant, durable service year after year with little or no expense for maintenance. Expert erection service is conveniently available.

For additional information write our nearest sales office or consult your classified telephone directory.

EAST: Wickwire Spencer Steel Division, Buffalo, New York
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, California

REALOCK FENCE
THE COLORADO FUEL AND IRON CORPORATION CF&I

BRANCHES IN ALL KEY CITIES

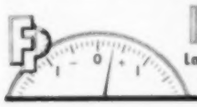
If you write make identify as IEN - 9171

You Know Faster — and Positively

whether a dimension is acceptable or not when you use . . .

FEDERAL
DIAL INDICATING GAGES

Because Federal designs and makes all types we can furnish a Gage from a wide selection of stock type Indicators and Gages. Or, we can apply our wide experience in designing Special Gages. The experience of designing over 25,000 Gages of every conceivable type and know-how in making them so they will tell the truth should be worth something to you. Send for catalog or tell us your requirements and we will recommend a Gage to tell you quickly and positively what you want to know. FEDERAL PRODUCTS CORP., 1298 Eddy St., Providence 1, R. I.



FEDERAL
Largest manufacturer of indicating type gages . . . exclusively.

If you write make identify as IEN - 9172

Solve Your Cutting Problems with Jacques SHEARS and CUTTERS

JACQUES SHEARS AND CUTTERS are helping to solve troublesome cutting problems throughout trade and industry.

These versatile shears quickly cut through paper, plastic, fabric, laminations, synthetics, leather, and other materials from rolls or sheets. Many different models are available to cut widths ranging from 12 in. to 10 ft. Some are lightweight and portable. Others are heavy duty shears which operate as part of any production set-up. You're sure to find one or more Jacques shears that's exactly right for your use!

All Jacques shears feature extremely fast, fatigue-free operation. One easy stroke makes a clean, accurate cut. Rugged metal construction and hardened steel blades assure exceptionally long life.

Let us know your cutting requirements. We'll be glad to recommend the cutter that meets your needs!

Quick Facts About Jacques Shears and Cutters

BENCH SHEAR. *Extremely versatile!* Cuts widths up to 10 ft. Twelve sizes (without gauges) available to fit *any* production set-up. Special tables and gauge arrangements made to order for your requirements.

UNIVERSAL SHEAR. A complete cutting unit with accurate gauges for cutting sheets of material into clean uniform strips — ⅛" to 20" in width. Six sizes available from 30" to 60". Special length tables also available.

JACQUES, JR. CUTTER. Lighter, less expensive all-metal cutter — perfect for *many* cutting operations. Automatic material-holder (self-adjusting clamp) automatically comes down to hold material to be cut. Available in table and bench models to cut widths from 12" to 36".

POWER SHEAR makes possible completely automatic (or semi-automatic) power cutting of material from rolls or sheets. Cuts widths up to 60" at rate of 70 cuts per min. For continuous or intermittent cutting with automatic feeding and take-away devices to meet *any* cutting requirements.

J-L SHEAR. Lighter, less expensive adaptation of Universal Shear. Cuts widths up to 40".

CARD-CUTTER. All metal, precision-made, production cutter for widths up to 24". Ruggedly constructed for long life.

BOOKBINDER'S SHEAR. For heavy duty cutting requirements (as found in bookbinding plants)

TOUCH-O-MATIC CUTTER. New cutting principle makes possible cutting speed up to 10 cuts per second. Operator *presses table* to cut blueprints, photostats and other paper from rolls or sheets.

WRITE FOR MORE INFORMATION! For complete technical details on any Jacques Shear, request descriptive catalog page!

For faster, cleaner cutting through the years, specify only genuine Hobbs replacement blades, accessories, and repair parts.

HOBBS MANUFACTURING CO.
40 Salisbury St., Worcester 8, Mass.
EST. 1890
Producers of Modern Machinery for Modern Industry
Jacques Hand and Power Shears, Slitters and Rewinders, Hobbs Automatic and Tri-Power Die Presses, Paper Saw Machinery and Touch-O-Matic Industrial Cutters.

If you write maker identify as IEN-9174

MORE than 90% of all Peerless Motors are custom manufactured to meet the specific operating requirements of the equipment with which they are to be used. So we "Peerless Register" every motor before shipment. The words "Peerless Registered" are a trademark, recorded in the U.S. Patent office. Only Peerless Motors can bear this phrase, and only Peerless Motors offer you this protection. This registration record is assurance to both you and your customer that the Peerless Motor has been properly designed for your equipment so as to give best possible performance and long, satisfactory service. And the registration record makes possible the quick identification of any Peerless Motor—anywhere.

THE PEERLESS ELECTRIC CO., WARREN, OHIO
Manufacturers of Quality Motors Since 1893
Single Phase • Polyphase • Direct Current • ¼ to 15 H.P.

Peerless-Electric MOTORS·FANS·BLOWERS

If you write maker identify as IEN-9175

WON'T SMUDGE • RESISTS: DIRT GREASE WATER ACIDS

LABELON PLASTIC *Write on it* **TAPE**

STICKS WITHOUT MOISTENING

FOR FACTORY, LABORATORY, OFFICE, ETC.

Nothing else like LABELON—the amazing "Write on it" plastic tape! Use it to label stockroom shelves, bins, tools, hard-to-mark parts; for indicating rejects and service department repairs; for marking laboratory equipment, supplies, experiments; for panel boards or wiring; for office files, folders, etc.

LABELON TAPE sticks without moistening to any smooth, clean surface—yet can be quickly removed. Resists heat up to 160°. Just write on it with pencil or stylus—message won't smudge. Choice of widths and colors. Handy dispenser with cutter bar.

See your nearest dealer, or write for sample and prices.

Write to Dept. IEN

LABELON TAPE CO., INC.
450 Atlantic Ave., Rochester 5, N. Y.

If you write maker identify as IEN-9176

38 STANDARD MODELS

GRAYMILLS coolant pumps and pumping units answer most of your machine tool coolant needs.

- To modernize dry machines for wet cutting.
- To equip new machines.
- For replacements.
- For "standby" service.
- For original equipment.

1/25 to ½ HP. High volume immersion type centrifugal pumps. Also 1/25 to ½ HP. high pressure gear pumps and complete coolant systems.

The GRAYMILLS line is stocked by leading distributors everywhere.

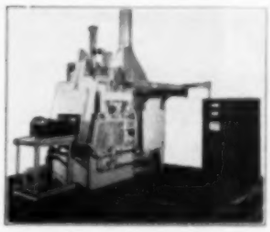
Send for new selection chart . . . tells the right pump or coolant system for the job.

GRAYMILLS CORPORATION
3709 N. Lincoln Ave. Chicago 13, Ill.

If you write maker identify as IEN-9177

HEAT TREATING . . Gas fired furnace for carbonitriding, 250 lb. per hour

Source: LINDBERG ENGINEERING CO.
2456 W. Hubbard St., Chicago 12, Ill.



Doors are air operated

Built-in quench and automatic cycle control characterize the operation of this new gas-fired vertical radiant tube furnace. A feature is the fact that the vertical tubes can be removed and replaced quickly for minimum interference with continuous production. The furnace provides an effective work space measuring 25 by 36 by 15 inches. The installation measures 14 by 5 by 12 feet.

Work is transferred from a loading table into the atmosphere purge chamber, onto an elevator above the oil quench. After the front door has been closed the work is transported on roller rails into the heating chamber. A built-in timer controls the heating cycle to produce desired case depth or soaking time for straight hardening. Then the work is conveyed from the furnace chamber onto the elevator which lowers it into the oil quench. After it is quenched it is brought up by the elevator for removal. Another work load can be positioned while the preceding load is being quenched.

Maximum temperature is 1,750 deg. F. The packaged furnace lists at $9,300. An endothermic type atmosphere generator adds $3,900 when specified.

If you write maker identify as IEN-9178

TESTING . . Oscillograph records changing current and voltage

Source: GENERAL ELECTRIC CO.
Dept. 6X-201, Schenectady 5, N. Y.

Accessories are shown

Four accessories have been developed for the company's Type PM-18 portable oscillograph with which 2, 3 or 4 rapidly or slowly changing currents and voltages can be recorded simultaneously. First is a continuous drive film holder for applications requiring a longer record than can be obtained from the film pack or the Polaroid Land film holder that are original standard equipment. Second of the four accessories is a viewing attachment to observe the wave form before taking a record. Third is a galvanometer with sensitivity of 1.67 mm. per ma. at 1 meter. Fourth is a new sweep mirror that provides adjustable time sweep from 0.1 to 0.5 second to the original non-adjustable 1/60 second sweep.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9179

A. TYPE J6
B. TYPE H12

A WEATHERPROOF, SHOCK-RESISTANT PRESSURE VACUUM CONTROL

C. TYPE J98

The Type J6 pressure and vacuum control is the basic unit of the three models shown. It is a sensitive precision built unit with weatherproof and shock-resistant features, thus may be used in exposed places on moving equipment. The J6 is for use on pressure vacuum applications requiring very close on-off differentials.

The Types shown include the J6 covered by bulletin #5-3, the H12, with external calibrated adjustment covered by bulletin #5-2 and the J98 with explosion-proof housing covered by bulletin #5-4.

Write for the bulletin you desire.

UNITED ELECTRIC CONTROLS COMPANY
80 School Street, Watertown, Mass.

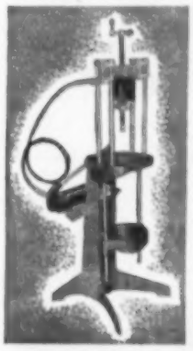
STANDARD & SPECIAL THERMOSTATS & PRESSURE SWITCHES

If you write maker identify as IEN-9180

OTC 17½ TON HYDRAULIC OPEN THROAT PORTABLE PEDESTAL PRESS

ONLY $199.95

SAVES HOURS AND DOLLARS ON EVERY JOB



An unbelievable low price for this amazingly efficient Portable Pedestal Press and 17½ ton Power-Twin Hydraulic Puller . . . a must for every maintenance shop. Pays for itself on the first few jobs in time, tools and money saved.

Use it for pressing bearings, bushings, pins, for bending, straightening, compressing, spreading, etc. Move it where you want it—it's portable.

STRONG . . . will handle 95% of all pulling or installing jobs.

COMPACT . . . Base is only 20" x 21" — 34½" from top of press plate to floor. Press Plate throat is 7½" deep, 6" wide, 10½" clearance between uprights; 11" from Ram to press plate with almost unlimited vertical adjustment. Weighs less than 200 lbs.

VERSATILE . . . POWER-TWIN Hydraulic Unit may easily and quickly be detached for field service or other pulling jobs.

INEXPENSIVE . . . dollar for dollar . . . ton for ton . . . the lowest priced, most rugged and efficient Hydraulic Press on the market.

See your jobber for complete information or write us.

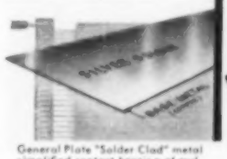
OWATONNA TOOL CO.
371 CEDAR STREET • OWATONNA, MINNESOTA

If you write maker identify as IEN-9181

PROBLEMS:
Replace Scarce Metals, Reduce Costs, Simplify Brazing, Get Higher Performance
GENERAL PLATE
Provided Solutions with Composite Metals

General Plate replaced critical nickle in radio tube parts with ALFER II.

General Plate reduced high platinum cost in an electrode with platinum clad to copper.



General Plate "Solder Clad" metal simplified contact brazing of multiple leads from a screen.

General Plate provided higher performance and longer wearing qualities in contact assemblies with TOP-LAY.

Manufacturers of many products ranging from circuit breakers, radio tubes, temperature controls, electrical terminal conductors to carbide tipped tools have found the solution to their problems with General Plate Composite Metals.

No matter what your problem, it will pay you to consult with General Plate. Their vast experience in cladding precious to base metals, or base to base metals can overcome your problems . . . often reduce costs.

GENERAL PLATE
Division of Metals & Controls Corporation
78 FOREST ST., ATTLEBORO, MASS.

If you write maker identify as IEN-9182

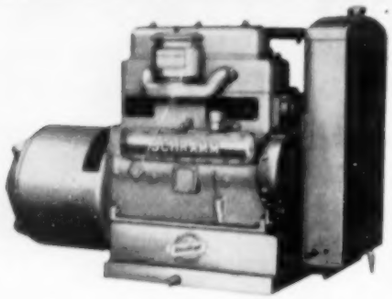
THIS MACHINE THREADS PIPE *FASTER!*

NEW BULLETIN TELLS HOW!

Less than 60 seconds is the average time for all operations of reaming, threading and cutting off from ½" to 2" pipe in 24" lengths cut from 20 ft. lengths. That's a sample of production speeds you get with the Oster No. 782 "RAPIDUCTION JR." Here's an unbeatable combination of high quality at moderate price in a modern 2" pipe machine. Write for No. 782 Bulletin.

OSTER The Oster Manufacturing Co.
2055 East 61st Street • Cleveland 3, Ohio, U.S.A.

If you write maker identify as IEN-9183



Direct Motor Drive Compressor With Cooling Unit

- NO ELABORATE FOUNDATIONS WHEN INSTALLING THE MODERN SCHRAMM AIR COMPRESSORS.
- VIBRATIONLESS . . . EASY TO MOVE . . . EASY TO INSTALL.
- FURNISHED COMPLETE WITH ALL NECESSARY ACCESSORIES.
- SIZES FROM ½ TO 100 HORSEPOWER, DIRECT CONNECTED, V-BELT DRIVE AND TANK MOUNTED.

Write for Bulletin SSB-51A

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA

If you write maker identify as IEN-9184

EXTRA-LENGTH PANELS

Speed Construction

Many industrial, construction and marine uses have proved G-P Giant Scarfed Panels the ideal building material whenever long "wide boards" are specified or when large areas require coverage. Besides speeding up construction, reducing dead weight and adding strength, Giant G-P Scarfed Panels permit use of fewer or lighter frame members, eliminate joints and cut finishing costs.

Quality-controlled to assure uniform thickness and rigidity, easy-to-fabricate G-P Scarfed Panels are available in natural 12 ft. or scarfed 14 ft. and 16 ft. lengths. Custom sizes of any length or thickness can be made to fit your specifications.

GP GEORGIA—PACIFIC PLYWOOD COMPANY

OFFICES OR WAREHOUSES IN: Augusta, Birmingham, Boston, Chicago, Columbia, Detroit, Lancaster, Louisville, Memphis, Nashville, Newark, New Hyde Park, Olympia, Orlando, Philadelphia, Pittsburgh, Providence, Raleigh, Richmond, Savannah, Vineland.

For complete data, fill in and mail this coupon *today*

Georgia-Pacific Plywood Company
614-SE North Capitol Way
Olympia, Wash.

Please send me Scarfed Panel data.

NAME .....
FIRM NAME .....
FIRM ADDRESS .....
CITY ..... STATE .....
POSITION .....

If you write maker identify as IEN-9186

TRUCK . . Warehouse trailer mounts deck 8 in. above the ground

Source: THOMAS TRUCK & CASTER CO.
4733-37 Mississippi River, Keokuk, Iowa

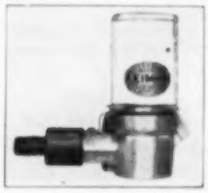
Mounts tractor couplings at both ends

Load capacity is 3 ton for this new Lo-Deck trailer. It has been designed to carry heavy crates, boxes, machinery, barrels in railroad freight houses and warehouses as well as in industrial plants. The heavy work need be lifted only a short distance for loading and unloading. The wheels measure 6 in. in diameter and have a 3½-in. face width. Standard deck size is 36 by 72 inches. No. 395 is the designation.

If you write maker identify as IEN-9187

LUBRICATING . . Air line oiler for company's air and vacuum pumps

Source: LEIMAN BROS. INC.
146 Christie St., Newark 5, N. J.



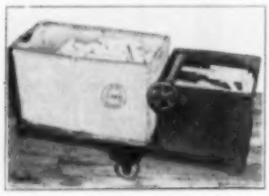
No free oil

Draft of air passing through this new lubricator picks up oil vapor from the reservoir at an adjustable rate between 1 drop in 4 min. to 4 drops in 1 minute. The air carries the vapor into the pump to lubricate the wearing parts. At the same time it does not permit any free oil to get into the air line where it might contaminate an operation. The lubricator feeds any oil from SAE 10 to 70. Its transparent glass reservoir holds 3 oz., sufficient for several days.

If you write maker identify as IEN-9188

TRUCK . . Special platform design for empty and loaded textile bobbins

Source: W. T. LANE & BROS. INC.
652 Prospect St., Poughkeepsie, N. Y.



Helps the operator

New doffer's truck mounts a metal bin for empty bobbins and a removable canvas basket for loaded bobbins. It is featured by the handwheel operated false bottom in the metal bin. The handwheel is turned to raise the bottom as the bobbins are used so the unused ones can be picked up from a normal standing position. The canvas basket for the loaded bobbins protects the yarn.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9189

Power failure is no light matter!

FAIRBANKS-MORSE GENERATING SETS

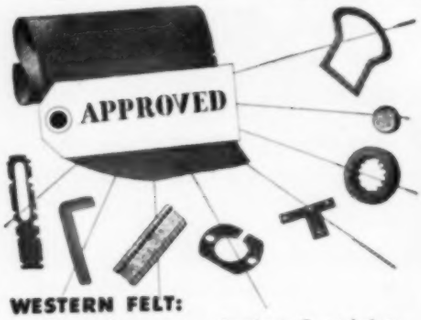
Many things can cause power failure—fires, explosions, traffic accidents, human error. And all of them can lead to injuries, property damage—even death. Then may come lawsuits and staggering debts.

Your own business is not immune. But the severity of the disaster can be minimized if you have a Fairbanks-Morse Generating Set standing by to cut in instantly when city or rural high line service is halted.

A Fairbanks-Morse Generating Set is the cheapest insurance you can buy! Ask your local Fairbanks-Morse dealer to show you why. Or write Fairbanks, Morse & Co., Chicago 5, Ill.

FAIRBANKS-MORSE, *a name worth remembering*

If you write maker identify as IEN-9190



WESTERN FELT:

Your Insurance Against Complaints

Felt is not "just felt." There is a vast difference in its manufacture and efficiency. Because Western Felt for over fifty years has not, and will not, depart from its policy of maintaining the highest possible quality in material and manufacture, its products wherever they may be employed, are your insurance against product complaints due to a Western Felt component part. It ranges from wool softness to rock hardness—never loses shape—does not ravel or fray—resists oil, water, heat, age—resilient, flexible, compressible—may be cut to extremely close tolerances—unsurpassed in uniformity. 102F

WESTERN FELT WORKS
4035-4117 Ogden Avenue, Chicago 23, Illinois
BRANCHES IN ALL PRINCIPAL CITIES
Largest Independent Manufacturers and Cutters of Wool Felt and Felt Felt

If you write maker identify as IEN-9191

FOR HAZARDOUS LOCATIONS USE—

CHELSEA EXPLOSION-PROOF FANS

● TYPE PLBX POWER LINE DUCT BOOSTER—Motor external to Air Stream. 16" to 48" in all H.P. ratings.

● TYPE PLP POWER LINE DIRECT DRIVE — 16" to 48" in all H.P. ratings. Square frames for easy installation.

● TYPE PLDU POWER LINE AIR BLASTER—For spot cooling — available on pedestal. 18" to 42" in all H.P. rating.

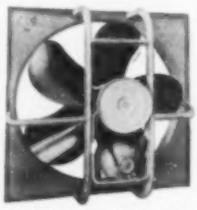
● TYPE PLBD POWER LINE BELT DRIVEN — 24" to 48" in all H.P. ratings. Square frames for easy installation.

THE ABC OF SAFETY— Always Buy Chelsea!

Performance-proven CHELSEA explosion-proof fans meet rigid ventilating and exhaust specifications to the letter. For hazardous locations, specify CHELSEA type fans supplied with Class I, Group D motors, and non-ferrous, non-sparking propellers. Ask CHELSEA for recommendations for your particular processing or industrial need—address Dept. R-8.

Type IND Industrial Fan

for general ventilating and comfort cooling in factories, foundries, plants, mills, laboratories, etc.



● Belt Driven ● Streamlined Orifice ● Precision Balanced Blades ● Ball Bearing Equipped Motor and Shaft. All Steel Welded Construction

Chelsea Type IND is a heavy duty fan recommended for general industrial service. Flexible and efficient, it is capable of moving large volumes of air.

Look for this Seal of Certified Ratings

Look for this Symbol of Quality

CHELSEA FAN & BLOWER CO., Inc. PLAINFIELD, NEW JERSEY

If you write maker identify as IEN-9193

NEW SKINNER SOLENOID VALVE

EXPLOSION PROOF TYPE X5

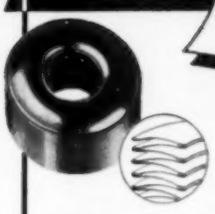
THE new Skinner X5 Solenoid Valve is basically the same as the widely accepted and tested V5, but modified to a construction that is Underwriters' approved for Class I, Group D hazardous locations. Small size and lightweight features are retained, and the X5 is low in price because of the many parts which are interchangeable with other Skinner valves. Rating is 10 watts max.; soft, spring loaded seals prevent leakage, internal parts are stainless steel; wide variety of port locations in 1/4" and 1/8" size, most types available for metering; for AC or DC in a wide range of voltages and frequencies; can be mounted in any position, supplied as two-way normally open or closed, three-way normally open, closed or directional flow. *Write today for details!*

SKINNER ELECTRIC VALVE DIV.
THE SKINNER CHUCK COMPANY
134 Belden Ave., Norwalk, Conn.

If you write maker identify as IEN-9194

Can You Use
BELLMETS?*

**Metallic Diaphragm BELLOWS with Specific Mechanical, Electrical and Thermal Properties*



- Convolutions electrically insulated from each other
- Contour construction to resist pressures exceeding 500 PSI
- Materials heat resistant to 500° F.

Bellmets represent a unique development in welded diaphragm bellows. All welds either on the inside or outside diameter (depending on whether operating pressure is to be internal or external) are replaced with a dielectric bonding material. The bonds are strong, slightly resilient, highly resistant to heat, and insulate each end of the bellows from the other.

Bellmets have already solved problems in engine noise attenuation, pressure switch simplification, circuit control at high pressures. Wherever heat, pressure, or electrical characteristics present a problem, job-engineered Bellmets – in a wide range of sizes and specifications – may prove the ideal solution.

WRITE TODAY for complete information, outlining your specific problem or interest.

BREEZE CORPORATIONS, INC.
41 South Sixth St., Newark, N. J.

If you write maker identify as IEN-9195

Fewer Parts make easy assembly

Simple construction, fewer parts make assembly and disassembly easy – also mean longer life.

CURTIS UNIVERSAL JOINTS

Simple construction is not the whole story. A combination of modern design, wise choice of alloy steels, with a special heat treatment for each part, give greater strength with less weight. And you can depend on Curtis catalog ratings – they are based on hundreds of actual tests.

ONLY CURTIS OFFERS ALL THESE ADVANTAGES

Availability – 14 sizes always in stock.
Simplicity – fewer parts, simpler construction.
Government Tests – complete equipment for government tests in our plant.

Write today for free engineering data and price list

CURTIS UNIVERSAL JOINT CO., INC.
7 Birnie Ave. Springfield, Mass.
As near to you as your telephone

A MANUFACTURER OF UNIVERSAL JOINTS SINCE 1910

If you write maker identify as IEN-9196

TRUCK . . Electric platform unit rates 2½ ton, has auxiliary shelf

Source: MARKET FORGE CO.
23-27 Garvey St., Everett 49, Mass.

Shelf is reversible

New assembly of the company's Load-Mobile freight truck includes an auxiliary shelf on the main load carrying platform. The truck is available with a ¾-hp. motor in standard construction for operation at 3 to 5 mph. It can be specified with a 1-hp. motor to increase the free speed to 6 mph. Weight is 1,450 lb. including the battery. Overall length is 92 inches. Couplers can be added to employ the truck as a tractor.

If you write maker identify as IEN-9197

WATER PROOFING . . Silicone, water soluble, non-flammable, odorless

Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

Non-corrosive by nature

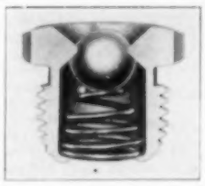
The company announces limited pilot plant production and availability in drum lots of its new Type SC-50 water soluble silicone. It is intended, at present, primarily for laboratory experimental purposes and is supplied as a liquid with 20 per cent silicone solids content. It is light amber in color and can be cured at ambient temperatures. It can be dried to a white powder that redisolves in cold water.

Major use, at present, is as a component in masonry water repellents. Development work is being conducted for applications including water repellents for textiles and paper products, catalyst preparations, water repellent aerogels, additives for sodium silicates and for water base paints.

If you write maker identify as IEN-9198

LUBRICATING . . Flush type fitting for oil or grease, normally closed

Source: UNIVERSAL LUBRICATING SYSTEMS INC.
784 Allegheny Ave., Oakmont, Pa.



Hexagon head

Four sizes with ⅝ to 1-in. pipe threaded shank are included in the company's new line of flush type lubricating fittings. When they are in place on a machine the head presents negligible obstruction or opportunity for collision that might knock it off. The spring backed ball that holds the opening normally closed is depressed for oiling or greasing. The back-up spring is designed so passage through it at point of maximum depression is greater than the opening into the fitting.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9199

How Much Is Washroom Maintenance Costing *YOU?*

Provide AUTOMATIC 24-Hr. Service. Take a practical look at your own washrooms . . . the expense of towels required over a year . . . janitor time required to fill empty towel cabinets and empty waste containers . . . clean up towel litter. At best, towel service is as good as its maintenance . . . and that maintenance is an overhead expense costing you money!

New Sani-Driers eliminate ALL this needless expense! They provide fast, efficient hand or hair drying service 'round the clock . . . *quickly pay for themselves out of savings!* Approved by Underwriter's Laboratories.

Write for new illustrated literature! Semi-recessed model shown above. Wall and pedestal models also available.

Distributors in All Principal Cities
THE CHICAGO HARDWARE FOUNDRY CO.
"Dependable Since 1897"
3482 Commonwealth Avenue
NORTH CHICAGO, ILLINOIS

If you write maker identify as IEN-9200

ALL-PURPOSE SLINGS

with new Roebling Tapered Sleeve Splice . . . stronger . . . cost less!

NEW ROEBLING All-Purpose Slings with the Tapered Sleeve Splice are delivered ready for the job. The unique rolled loops and tapered sleeve attachments develop the full strength of the rope . . . cost less than ordinary tucked splices . . . save "splicing your own".

Made of Roebling "Blue Center" Steel Wire Rope, All-Purpose Slings are unsurpassed for toughness and dependability . . . flexible and easy to handle . . . come in all standard lengths and sizes. Send for full information and for the free "Sling Data Book." John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

If you write maker identify as IEN-9201

ONE . . *Good Way* TO SAVE PRODUCTION TIME

KESTER SOLDERFORMS

For Soldering with flame, carbon-resistance, oven, induction and conventional iron

DIMENSIONAL STABILITY Every single Kester Solderform is made exactly to specification. What's more . . . they are delivered that way to you, in perfect condition, because of Kester's scientific packaging.

Write for sample assortment or test samples for your specific job.

KESTER SOLDER COMPANY
4211 Wrightwood Ave., Chicago 39
Newark 5, New Jersey • Brantford, Canada

KESTER SOLDER

If you write maker identify as IEN-9202

GOES WHERE THE WORK IS

In maintenance, construction, loading and unloading docks — wherever spot-lifting jobs turn up, the easy to carry 'Budgit' Aluminum Chain Block speeds the work. It's light! One man can easily lift, carry, and use the 'Budgit'. It's efficient! The smallest size lifts a 500 lb. load with only a 25-lb pull on the hand chain. It's tough! No common hacksaw can cut the load chain. All fastenings are splined; no keys and keyways to wear; no pressed fits to loosen, and cause trouble. The big, powerful load brake acts instantly. Man, load, and hoist are fully protected by special built in features.

'Budgit' Aluminum Chain Blocks are made in ¼, ½, 1- and 2-ton sizes. Save time, effort, and money on all spot-lifting 'round your place with this tough, light weight hoist. Write for Bulletin 398.

'Budgit' CHAIN BLOCKS

MANNING, MAXWELL & MOORE, INC.
Muskegon, Michigan

Builders of "Shaw-Box" Cranes, 'Budgit' and 'Load Lifter' Hoists and other lifting specialties. Makers of 'Ashcroft' Gauges, 'Hancock' Valves, 'Consolidated' Safety and Relief Valves, 'American' Industrial Instruments.

If you write maker identify as **IEN-9203**

for IMMEDIATE DELIVERY

on these

AMSCO welding products

Contact your AMSCO Distributor.

Amsco AW-79 for Automatic Hardfacing. This new alloy is now available. 5/32" and 3/16" in 22½" ID, 100 lb. coils.

The following Amsco rods are ready for prompt delivery in all diameters, bare and coated.

• Amsco No. 459 • Amsco No. 217 • Amsco No. 6 • Amsco No. 1 • Formface • Chromeface • Air-Hardening

Rods below are available in all diameters, *coated only:*

• Amsco HF-40 • Amsco HF-60 • Amsco Co-Mang

Tungsten Carbide, V-Mang, and Toolface are also available. Amsco Duraweld can be supplied in all diameters except 5/32", bare and coated. In addition, Carbon Steel Electrodes CS-1 and CS-2 are available now.

A complete line of manganese steel dipper tooth repointer bars and other shapes are available with reasonable delivery dates.

For complete technical details on Amsco Rods, ask your dealer for a copy of Bulletin 616-W.

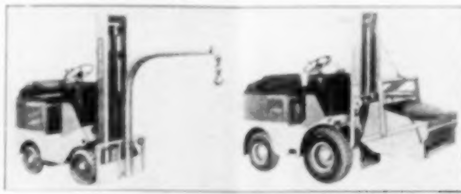
American Brake Shoe Company — AMERICAN MANGANESE STEEL DIVISION, 415 EAST 14th STREET • CHICAGO HEIGHTS, ILL.

Other Plants: New Castle, Del., Denver, Oakland, Cal., Los Angeles, St. Louis. In Canada: Joliette Steel Division, Joliette, Que. Amsco Welding Products distributed in Canada by Canadian Liquid Air Co., Ltd.

If you write maker identify as **IEN-9206**

TRUCK . . Load attachments, crane arm and shovel for lift truck

Source: TOWMOTOR CORP.
1224-28 E. 152nd St., Cleveland 10, Ohio



Extra arms and hands for the "One Man Gang"

Heavy loads such as engines, castings, dies, structural parts can be attached to the hook on a new crane arm the company has developed for its line of lift trucks. Then the truck serves to lift the load and carry it to a new location. Similarly a new shovel attachment is available to dig into, lift, carry and dump loose materials.

The crane arm rates 1,000 to 5,000 lb. in a range of sizes with a 24-in. reach. Corresponding rating is 400 to 2,800 lb. with 72-in. reach. Application is on the company's trucks rating 1,500 to 6,000 pounds. Hook height in lowered position is 48 inches. The attachment weighs 135 to 240 pounds.

The shovel weighs 530 to 700 lb. and measures about 39 to 73 in. in width in six available sizes. When a slice bar is added, as shown in the illustration, the total weight increases to a range between 700 and 890 pounds. This slice bar works without need for attention on operator's part. It opens as the shovel is lowered to ground level and closes when it is raised to carrying position to move the load around.

If you write maker identify as **IEN-9209**

GRACO LUBE SERVICE CART

One man and this Cart can set records for fast maintenance in your plant! With one hand he does high pressure greasing with a GRACO Luberator (A). He can also service oil cups and reservoirs . . . deliver a single shot or a controlled stream. GRACO's well-designed dual-valve Oiler (B) does this.

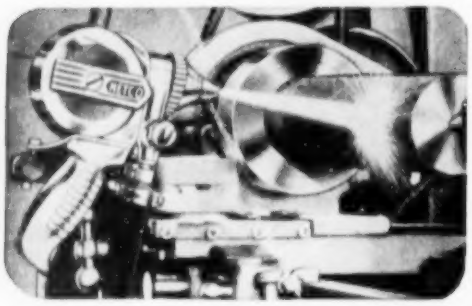
No air lines to connect or electric cords to plug in . . . this manually operated Lube Service Cart is completely self-contained. Hundreds of bearings can be lubricated without a refill trip. Cart handles easily in close quarters. Lube units can be removed when necessary.

Ask your distributor about the Cart, or write the factory for Catalog No. 401.

GRAY COMPANY, INC.
811 Graco Square
Minneapolis 13, Minn.

Regional offices: New York, Philadelphia, Detroit, Chicago, Atlanta, San Francisco

If you write maker identify as **IEN-9204**



now a really low-cost metallizing installation . . .

with the new Metco L-Gun

New, low, compressed-air requirements . . . only 10 cfm at 40 to 60 psi, already available in many shops, or supplied by inexpensive 3 hp compressor . . . bring metallizing within reach of the small user.

Here's a chance for the smaller maintenance shop to get into profitable metallizing operations like these:

- Save up to 90% of replacement costs on machine repair jobs.
- Do your own hard-facing.
- Apply long-wearing corrosion-resistant coatings to exterior plant structures, tanks and other equipment.

Sprays 23 Different Metallizing Wires — With the new L-Gun you can spray .10, .25, .80 carbon steels, stainless; babbits, brass, bronze, nickel, aluminum, tin, zinc; special hard-facing materials such as Metco-Weld H, and the new self-bonding Sprabond wire.

It's Versatile — Use the L-Gun machine-mounted or hand-held — it weighs only 4 lb. 2 oz. Do all kinds of metallizing work — shaft and bore build-up with harder, longer wearing metals; build up worn pump plungers, crankshafts, motor shafts; apply corrosion-resistant coatings. There are hundreds of different jobs that are "naturals" for metallizing.

Free Bulletin or Shop Demonstration — Send off the coupon for the detailed information Bulletin 55 gives you. Or, better still, ask for a demonstration in your own shop by a Metco Field Engineer. He'll be glad to show you how the new Metco L-Gun works on some job of your own.

The following names are the property of Metallizing Engineering Co., Inc. METCO† • Sprabond wire • Metco-Weld †Reg. U.S. Pat. Off.

METALLIZING ENGINEERING CO., INC.
38-13 30th Street, Long Island City, 1, N. Y.

☐ Please send me further information on the Metco L-Gun
☐ Please arrange a free demonstration in my shop.

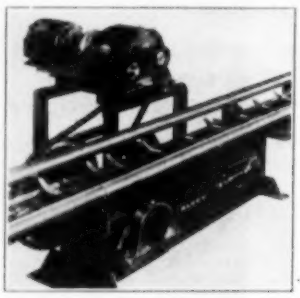
Name ____________
Company ____________
Street ____________
City ____________ Zone ____ State ____________

METALLIZING ENGINEERING CO., INC. 38-13 30th Street, LONG ISLAND CITY 1, N. Y.
In Great Britain: METALLIZING EQUIPMENT COMPANY, LTD. Chobham near Woking, England

If you write maker identify as **IEN-9207**

CONVEYING . . Tractor drive for carousel type chain conveyor

Source: ALVEY CONVEYOR MFG. CO.
9303 Olive St. Road, St. Louis 24, Mo.



To push the chain along

Roller chain carrying twin driving lugs operates over a motor driven sprocket at the head end of this new conveyor drive section and over a take-up sprocket at the rear. The lugs engage the conveyor chain at the take-up end and release shortly before the roller chain reaches the head sprocket for smooth operation at normal conveyor speed without need for the offset chain previously employed by the company on this drive.

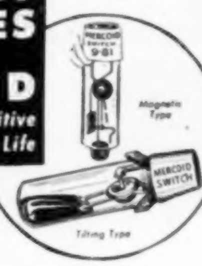
A second chain connects to the motor and speed reducer which mount on the stand beside the drive assembly. This portion of the equipment is subject to specification and can be supplied with a hydraulic coupling between the motor and reducer as shown in the illustration. Overall height of the conveyor section without the motor drive is 21½ inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as **IEN-9210**

MERCURY SWITCHES by MERCOID

Assure Accuracy, Positive Operation and Long Life



TILTING TYPE MERCURY SWITCHES

The original method consisting of a simple tilting movement for opening and closing the circuit is still largely the basis of operation in most mercury switch applications.

Figure 9-51 (illustrated—one of the most popular types) is a mercury to mercury contact switch. One electrode terminates in a pool of mercury within a cup of high temperature refractory material. The other electrode is submerged in the main body of mercury, and as the switch is tipped, these two pools of mercury join and close the circuit. Even when operated very slowly, the contact opens or closes with a positive and instantaneous action as the mercury joins or divides. The electric arc is confined to the lip of the high temperature refractory cup, so that no deterioration can occur.

Further information sent upon request.
THE MERCOID CORPORATION • 4217 BELMONT AVE. • CHICAGO, ILL.

If you write maker identify as **IEN-9208**

Heat Where You Need It... QUIETLY with

DUNHAM UNIT HEATERS

You're looking into Dunham's new Vertical Discharge Unit Heater—designed to throw heat *exactly* where needed, while maintaining perfect balance between air volume and final air temperatures.

Note the sturdy motor support cone that directs air from heating element to fan and protects motor from excessive heat and dust; the resilient motor mountings that minimize noise and vibration.

Dunham's improved header design assures uniform steam distribution, eliminates air pockets. For complete information, WRITE FOR BULLETIN 1301-11.

DUNHAM

C. A. Dunham Co.
400 W. Madison St., Chicago 6, Ill.
In Canada:
C. A. Dunham Co. Ltd., Toronto
In England:
C. A. Dunham Co. Ltd., London

HEATING SYSTEMS AND EQUIPMENT

If you write maker identify as **IEN-9211**

MET-L-WOOD

METAL BONDED TO PLYWOOD

Has Hundreds of Structural Uses in Modern Plants

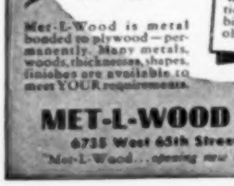
To Name a Few:

- Walls and Partitions
- Doors
- Counters and Shelves
- Traffic Panels
- Truck Bodies (Patented "Ribless" Construction)
- Truck Body Panels
- X-Ray Rooms
- Moisture-Vapor-Proof Rooms and Containers
- Decorative Finishes

Met-L-Wood stock panels and prefabricated units are a challenge to modern industrial engineers and designers because of their multiple possibilities in economical, structurally-sound designs in hundreds of varied uses. Best start toward thinking in terms of Met-L-Wood design opportunities is to send for the Bulletin described below . . . Met-L-Wood Engineering Service is available without obligation on specific problems.

SEND FOR THIS BULLETIN ON MET-L-WOOD USES AND ADVANTAGES

Quick facts, with illustrations and diagrams on Met-L-Wood applications, types, possibilities. Sent without obligation on request.



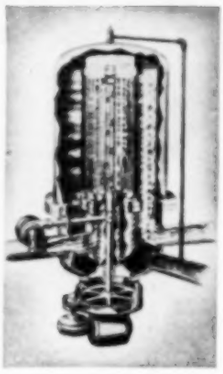
Met-L-Wood is metal bonded to plywood—permanently. Many metals, woods, thicknesses, shapes, finishes are available to meet YOUR requirements.

MET-L-WOOD CORPORATION
6755 West 65th Street • Chicago 38, Illinois
"Met-L-Wood . . . opening new horizons to structural designers"

If you write maker identify as IEN-9212

Save Water...Cut Bills

with this strainer



Make raw river or lake water fit for industrial use by passing it through a Cuno FLO-KLEAN.

FLO-KLEAN strains out trash at flow rates up to 20,000 gpm. No attention needed—with continuous backwash cleaning* of the strainer and automatic top and bottom blow-down.

Reclaim used process water with FLO-KLEAN—save water bills and heating costs.

Write for FLO-KLEAN bulletin—see how FLO-KLEANS have paid for themselves in as short a time as six months. Cuno Engineering Corporation, Dept. 693F, South Vine Street, Meriden, Connecticut.

*Even the backwash water is reclaimed—not a drop wasted!

CUNO

Fluid Conditioning

Removes More Sizes of Solids from More Types of Fluids

If you write maker identify as IEN-9213

The Simpson Model 260 Volt-Ohm-Milliammeter Outsells All Others Combined Because

- A covers all ranges necessary for Radio and TV set testing
- B includes the Simpson 50 Microampere Meter Movement known the world over for its ruggedness
- C no bulky harness wiring, thus eliminating all intercircuit leakage at this high sensitivity
- D molded recesses for resistors, batteries, etc.
- E easy battery replacement
- F covered resistors to prevent shorts and protect against dust and moisture

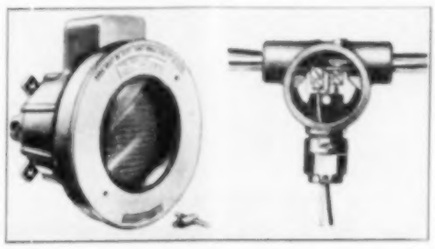
● All components—including case and panels—are specially designed and completely tooled for maximum utility . . . not merely assembled from stock parts

SIMPSON ELECTRIC COMPANY
5200 W. Kinzie St., Chicago 44, Illinois • Phone: COlumbus 1-1221
In Canada: Bach-Simpson, Ltd., London, Ont.

If you write maker identify as IEN-9215

LIGHTING . . Fixture and hanger, explosion proof for dangerous places

Source: CROUSE-HINDS CO.
7th North & Wolf Sts., Syracuse 1, N. Y.



Safely sealed in service

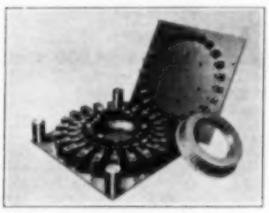
New fixture to mount flush in a ceiling and a new explosion proof fixture hanger have been added to the company's line of lighting equipment. The fixture, to the left in the illustration, rates 200 watts. It is equipped with an 8-in. lens with symmetrical lighting distribution for general illumination or with a prismatic lens for special application. In the latter case it is suited particularly to illuminate panel boards in petroleum refineries and chemical plants. The flush assembly will not present any obstruction to overhead equipment such as cranes and hoists.

The hanger is essentially a key fitting with two through-feed hubs for the lighting circuit conduit and a bottom hub for the fixture stem. A threaded cover on the side is removable for wiring. A connection block is available to secure the fixture wires to the circuit wires by means of two double terminals if they are not spliced in normal manner.

If you write maker identify as IEN-9216

PRESS TOOLS . . Punch and die units perforated at 90 deg. with ram action

Source: WALES-STRIPPIT CORP.
361 Payne Ave., North Tonawanda, N. Y.



For holes to ⅝ inch

New series of angle-acting punch and die units has been added to the company's Type-H punch and die design to perforate holes at 90 deg. with the action of a press ram. Two designs include one in which an angle type actuator is included as a part of the punch and die assembly and one in which the actuator is separate to mount on a punch plate as shown in the illustration.

In both cases each punch and its die are held in rigid alignment with relation to each other and the punch is equipped with a stripper spring that will retract it as soon as the actuator is retracted. Complete punch and die units can be removed from a multiple set-up and replaced with others that have been sharpened so the dulled assemblies can be reworked.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

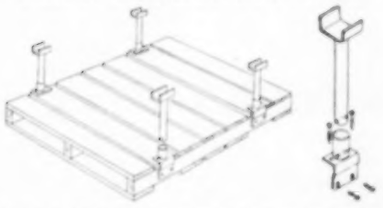
If you write maker identify as IEN-9217

NOW—practically ANYTHING can be palletized

"ECONO-MISER" Hardware

. . . a PALTIER Job Tool

low priced tiering hardware of high quality for use where clear, vertical opening does not exceed 24" and loads are not over 1500 lbs.



Inexpensive hardware converts standard 2-way or 4-way pallets into STACKING PALLETS at a lower cost than ever before possible—utilizes storage space to greater advantage; permits mechanical handling.

Hardware consists of four tubular steel corner posts with 3-inch steel channels welded at top, four tubular steel receiving sockets and lag screws for attaching sockets to pallets. Cost is approximately one-half of usual stacking hardware.

Get the Facts Today! Write

THE PALTIER CORPORATION
1701 KENTUCKY STREET • MICHIGAN CITY, INDIANA
DISTRIBUTORS IN PRINCIPAL CITIES

If you write maker identify as IEN-9218

If you write maker identify as IEN-9219

WRENN PAPER COMPANY

SELECTS B&S **SHEAR-CUT SLITTER-REWINDER**

The Wrenn Paper Company, widely recognized for its high quality products, was faced with the problem of slitting a hard-to-handle material. Clean, square edges and uniformly wound rolls were of utmost importance.

After considering several machines, the Bagley & Sewall #15 Shear-Cut Slitter-Rewinder was selected.

B & S Slitters and Rewinders are doing outstanding jobs in mills and converting plants all over the country. Their many unique money-saving advantages make them the first choice of the industry. Before you buy, *compare*...and your choice, too, will be B & S Slitting and Rewinding equipment.

For full details write to The Bagley & Sewall Company, Watertown, New York.

Inserts show Shear-Cut Slitter Units

BAGLEY & SEWALL
designers and builders of
WATERTOWN, NEW YORK
QUALITY MACHINERY SINCE 1883

Foreign Representative: CASTLE & OVERTON, INC., 630 Fifth Ave., New York 20

If you write maker identify as IEN-9221

CAL-WIC WIRE CLOTH

In all Meshes, Weaves and Weights

Filtering, screening or grading—whatever your special job demands may be—Cal-Wic Wire Cloth is available in the right mesh, weave or weight to meet your requirements. Resistance to corrosion, abrasion and temperature extremes assured, through the use of appropriate metals and alloys.

The long-wearing qualities of Cal-Wic Wire Cloth take on added importance during times like the present.

For additional information write or phone our nearest sales office.

EAST: Wickwire Spencer Steel Division, Clinton, Mass.
WEST: The Colorado Fuel & Iron Corporation, Denver, Colorado
PACIFIC COAST: The California Wire Cloth Corporation, Oakland, Calif.

CAL-WIC INDUSTRIAL SCREENS
THE COLORADO FUEL AND IRON CORPORATION

If you write maker identify as IEN-9222

keep costs down

with accurate job time records

CALCULAGRAPH

FIGURES ELAPSED TIME ACCURATELY

PRINTS DATE
STARTING TIME
FINISHING TIME
TOTAL ELAPSED TIME

Keep production costs in line with automatically computed, precision Calculagraph job time records. Just stamp card at beginning and ending of the operation. Calculagraph prints date, starting and finishing time plus precision calculated elapsed time. One Calculagraph can record and compute job time data for one entire shop or department by handling any number of cards in any sequence. Accurate, printed Calculagraph records can be filed for future use in estimating on new orders and checking production efficiency. Calculagraphs are low in cost, practically maintenance-free and built for a lifetime of dependable service.

COUPON BRINGS FULL INFORMATION
—FILL IN AND MAIL TODAY!

CALCULAGRAPH COMPANY
SUSSEX STREET, HARRISON, NEW JERSEY

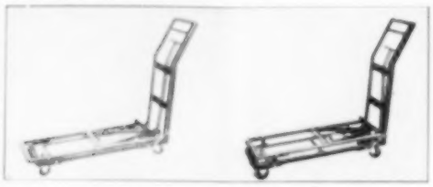
Send complete data on Calculagraph to:

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ STATE _____

If you write maker identify as IEN-9224

TRUCK . . Hand lift platform unit hydraulic release controls lowering

Source: ORCHARD MFG. CO.
Elm and 15th Sts., Easton, Pa.



List prices are $119 and $124.50

Single stroke is through 14½ in. from 7¼ in. above the floor for this new Mac-Lift hand truck. The platform latches in raised position to carry a loaded skid from one location to another. When the latch is released a hydraulic cylinder takes over to control the lowering action and let a load down gently.

Two sizes measure 14½ and 18 in. in width. Both are 46 in. in overall length by 40½ in. in length of the load platform. The wheels are ball-bearing design. Weights are 70 and 80 pounds. Capacity in each case is ½ ton.

If you write maker identify as IEN-9225

LIGHTING . . Reflector lamp for high bay use, 500 and 750 watts

Source: SYLVANIA ELECTRIC PRODUCTS INC.
1740 Broadway, 16th Floor, New York 19, N. Y.

Type C-7A
filament design

Type R-52 is a new mogul-base 500 or 750-watt incandescent reflector type lamp. It is designed to burn base up or within 25 deg. of vertical base-up position in a high plant bay. Overall length is 11¾ inches. Operation is on nominal 110-volt input. The built-in reflecting surface is protected in the glass housing from accumulation of dust and oil.

If you write maker identify as IEN-9226

VENTILATING . . Axial blower portably mounted, 6,600 to 34,000 cfm.

Source: CHELSEA FAN & BLOWER CO.
637-41 South Ave., Plainfield, N. J.

The impeller and its driving motor in this new Air Blaster are enclosed within a duct section and are protected by screens at the two faces. The housing is mounted in trunnion assembly on a structural frame equipped with two legs and two wheels. The leg end can be lifted so the unit will ride free on the wheels for movement from one location to another. An eye on the housing permits picking **the unit up by overhead** means. Sizes are from 18 to 42 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9227

Let the Figures Prove How Much More You Save With "Keyed-For-the-Job" Automatic Trucks

There's only one RIGHT truck for each material handling job . . . and Automatic has the experience and know how that saves you money with trucks "Keyed-for-the-Job"

From the smallest to the largest truck . . . from the lightest to the heaviest products to be moved, lifted or stored, expect the *right* truck from Automatic . . . an electric truck *"keyed-for-your-job"* and *your job alone!*

Put Automatic electric trucks to work in your plant, and let the figures prove that Automatic Trucks cost so little to operate, so little to maintain. Write for facts on Automatic "Keyed-for-the-job" electric trucks.

Automatic
109 West 87th St., Dept. M-2
Chicago 20, Illinois

Automatic ELECTRIC TRUCKS

WORLD'S LARGEST EXCLUSIVE BUILDER OF ELECTRIC INDUSTRIAL TRUCKS

If you write maker identify as IEN-9228

COMPACT

MORE POWER IN LESS SPACE

Maxi-Power Parallel Shaft Helical Gear Drives, with precision processed gearing, improved materials and heat-treatment, closer manufacturing tolerances, permit the selection of smaller size, lighter weight units.

Generated helical gearing, positively located for full tooth engagement across the entire gear face means improved performance.

Close backlash tolerances, reinforced housing design, plus antifriction bearings throughout, provide smooth, quiet operation.

Write for Bulletin MPB

FOOTE BROS. GEAR AND MACHINE CORPORATION
Dept. IEN, 4545 S. Western Blvd. • Chicago 9, Illinois

FOOTE BROS.
Better Power Transmission Through Better Gears

If you write maker identify as IEN-9229

Newark for

FABRICATED WIRE CLOTH

STRAINERS
FILTERS
SCREENS

Our engineers, long experienced in the design and manufacture of precision wire cloth parts, can help solve your fabricated woven wire parts problem. We are equipped to manufacture everything from water strainers to aircraft fuel, oil and air filters. The cloth we use is Newark, long noted for its uniformity of mesh and durability of weave.

May we quote on your next requirements?

NEWARK *for* ACCURACY

Newark Wire Cloth COMPANY
342 VERONA AVENUE • NEWARK 4, N. J.

If you write maker identify as IEN-9231

GREATER RESISTANCE to High Pressures, Hard Wear

"FULLPAK"

Flexible All-Metal Hose, Full-Interlocked, Asbestos Packed; Laced and Wire Wound. Style 830. Designed to provide superior strength, durability and safety in handling steam, air, water, oil, chemicals, etc. Flexible metal tube has cover (lacing) of tightly braided steel or bronze wire. Outer half-round steel or bronze spiral gives additional strength and protection. Also available with braided cover only (Style 829) and plain (Style 828). Sizes ¼" to 3".

"Mulconroy Starts Where Others Stop!"

MULCONROY COMPANY
Hose Specialties Since 1887
5327 JEFFERSON ST., PHILA. 31, PA.

If you write maker identify as IEN-9232

This RUST-BUSTING TEAM SAVES
• PARTS
• TIME
• TEMPER

9800 American industrial leaders depend on Kroil when a frozen bearing, bushing or bolt threatens production or starts to cost expensive man hours.

During eleven years they have learned that it pays to use Kroil first and save parts. In these days of critical materials, shops cannot afford to use hammer-and-chisel methods when stuck-together parts cause trouble.

What Users Say:

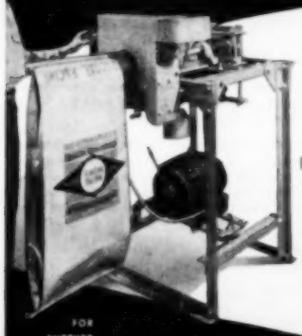
"Five men using levers and sledges worked for an hour with a frozen shaft . . . one man used Kroil and lifted the shaft out with no leverage." . . . "Before trying Kroil we broke off every nut (on our heat treat quench trolleys) . . . since then we have not lost one and have decreased the repairing time from 30 minutes to about six minutes per trolley."

Try Kroil at our risk. Send for a gallon—use it under the worst conditions you have. Return it for full credit if not satisfied. Kroil, $3.50 a gallon; Kroiler, $1.50 each . . . together, $4.75. f.o.b. Nashville.

KANO LABORATORIES
1071 Thompson Lane Nashville 11, Tenn.

If you write maker identify as IEN-9233

BLACK DIAMOND AUTOMATIC CONTROLLED WEIGHT
valve bag packer



Designed to pack dry granular or powdered free-flowing materials
★
Push-button control
Moderately priced
Easy to install
Lowest maintenance costs
Performance guaranteed
★

FOR FURTHER INFORMATION WRITE **BLACK PRODUCTS COMPANY** TO 13513 S. CALUMET AVE. • CHICAGO 27, ILL.

MANUFACTURERS SINCE 1932

If you write maker identify as IEN-9234

DRILLING . . Eighteen inch machine has rating to ¾ inch in steel

Source: ATLAS PRESS CO.
2391 N. Pitcher St., Kalamazoo, Mich.

Ask for Catalog 1800-A

The spindle in this new machine rides on two ball bearings in its steel quill. It is fitted with a splined upper end that slides in a second ball-bearing steel sleeve. The sleeve carries the V-belt sheave for connection to the drive motor at the rear of the head. The assembly eliminates side pull on the spindle due to the drive. The spindle can be equipped with a No. 3 Morse taper or with a Jacobs chuck to ¾ inch.

Hand feed is through 6½ in. by operating a capstan in connection with a spring controlled adjustable rotating tension as in the 15-in. machine, previously described IEN-1102-50. Feed depth is limited by an adjustable stop. Speed range is in five steps between 380 and 3,000 rpm. with a 1,725-rpm. motor. It is 250 to 1,650 rpm. with a 1,140-rpm. motor.

Maximum distance spindle to table is 39 inches and to the base is 50 inches. A tilting table measures 12 by 14 inches. A rigid non-tilting table surrounded by a trough to catch coolant measures 13 by 18 inches. The machine stands about 80 in. in height. It calls for a ¾ to 1½-hp. motor depending upon the service intended. List price in various arrangements without the motor is $275 to $302. The motor, depending on size and type, lists at $61 to $124.

If you write maker identify as IEN-9235

TRUCK . . Electric fork lift design, three sizes rate ½, ¾ and 1 ton

Source: LEWIS-SHEPARD PRODUCTS INC.
190 Walnut St., Dept. R-1, Watertown 72, Mass.

Protected drive

New control has been developed for the company's Space-Master line of electric fork lift trucks, previously described IEN-5829-52. Speed, direction and braking are centered at one master control lever. The operator can place this lever immediately into full speed position to cause the control to operate progressively through four speeds for smooth, timed acceleration. He can select any intermediate speed and the control will follow his direction either forward or reverse.

Dynamic braking is included to decelerate the truck when the master control is moved to any lower speed than it was set on. The arrangement minimizes need to use the truck's mechanical brake. Three fork lengths measure 30, 36 and 42 in., all on a 36-in. wheel base. Collapsed height is 83 inches. Maximum elevation for a load is 130 inches. The truck can be turned in intersecting aisles measuring 96 in. in width when equipped with the 36 in. forks. Travel speed is maximum at 3 mph. with a rated load.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9236

A PAID NEWS ADVERTISEMENT BY CLEVELAND VIBRATOR COMPANY

AIR-CUSHIONED VIBRATOR
Moves, Settles, Packages Materials QUIETLY

The CLEVELAND Air-Cushioned Vibrator, latest in its line of quality air vibration equipment, is being used to keep a wide range of materials moving quietly through, into or out of bins, hoppers, chutes and other material handling devices.

It is compact, carefully engineered and ideally suited for applications where noise is objectionable.

Basically, reciprocating action of the hard chrome-plated piston develops the vibrating action. Momentum set up by the piston is cushioned by an air pocket at each end of the vibrator assembly. This CLEVELAND unit is made in five different piston diameter sizes from 1" to 3".

What are you handling in bins? . . . cinders, powdered soap, candy bars, cement, coal, meat, sand, salt, paint, chemicals, breakfast food? All of these and countless more are flowing, packaging, settling QUIETLY with this CLEVELAND Air-Cushioned Vibrator. Completely eliminates arching, sticking and bridging. Easily installed.

BIN STUCK LATELY? Catalog No. 108 on request.

Made by Cleveland Vibrator Co., 2736 Clinton Avenue, Cleveland 13, Ohio.

If you write maker identify as IEN-9237

NOW—NOT NEXT WINTER *is the time to make sure your* HEATING is ADEQUATE

Bulletin No. 1173C

So WRITE for THIS BOOKLET TODAY!

If there were chilly areas in your plant last Winter, now's the time to correct the situation — with "Buffalo" Unit Heaters. Low in first cost and installation. As little as 2 lbs. steam required. Trouble-free Aerofin coils efficient "Buffalo" Breezo Fans assure PLENTY OF HEAT WHERE YOU WANT IT. The cost is so little — the improvement in worker efficiency and morale is so great.

BUFFALO FORGE COMPANY
496 BROADWAY BUFFALO, NEW YORK

Canadian Blower & Forge Co., Ltd., Kitchener, Ont.
Publishers of "FAN ENGINEERING HANDBOOK"
Sales Representatives in all Principal Cities

"Buffalo" UNIT HEATERS

If you write maker identify as IEN-9238

DON'T SCRAP IT!

LET "GLOVCO" RECONDITION IT
(LEATHER OR FABRIC)

DUST COLLECTOR BAGS • CONVEYOR BELTING
TARPAULINS • DROP CLOTHS • FILTER PADS

At a mere fraction the cost of replacement, we clean and professionally repair these and many other items, restoring them to new usefulness. Our pick-up and delivery plan in most industrial areas eliminates mechanical difficulties making this reconditioning plan work smoothly and to your complete advantage.

Our work glove reconditioning plan includes: pick-up, cleaning and sterilizing, repairing, reshaping, pairing, packaging and delivery. Users of the service record savings up to 49% in work glove costs. We will be glad to demonstrate this service at no cost to you. Representatives in all industrial areas

U. S. INDUSTRIAL GLOVE CORP.
9354 Roselawn Ave., Detroit 4, Mich.

If you write maker identify as IEN-9239

PROTECTS

AGAINST RUNAWAY LOADS

ON CONVEYORS and BUCKET ELEVATORS

S-A

"ROLLER-TYPE" HOLD-BACKS

Guards personnel and equipment against injury — prevents flooded feed points. Roller-and-wedge mechanism engages as soon as headshaft stops rotating forward. No roll-back, no jolt or shock. Releases the instant power is applied.

MAIL COUPON TODAY for full data on safety features

STEPHENS-ADAMSON MFG. CO. (S-A)
231 RIDGEWAY AVE., AURORA, ILLINOIS
Please send me bulletin No. 651 on S-A Hold-Back
Name.....
Company.....
Address.....
City.....Zone.....State.....

If you write maker identify as IEN - 9240

HERE'S DUO-SAFETY'S TWO-SIDED . . . ALL ALUMINUM MAINTENANCE LADDER

TYPE AL3C

Double Size Platform

Especially Sturdy Spreader

A. Angle Clip Brace.
B. Serrated, Reinforced Step.
C. Angle Brace.

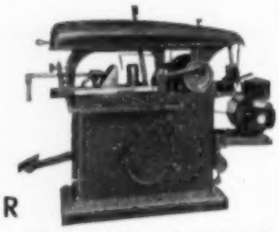
A new ladder in the famous Duo-Safety line of strong, sturdy, aluminum industrial ladders. Has a double climbing side, large top platform, rubber safety boots, light, strong aluminum construction. Ideal for all types of overhead maintenance work including use with extension planks. Available in sizes from 3 to 16 feet and is collapsible for storage in a limited space.

Free, Colorful File Catalog . . . Sent on Request

DUO-SAFETY LADDER CORP.
811 NINTH ST. OSHKOSH, WIS.

If you write maker identify as IEN - 9241

Get Faster Easier Cutting . . . LONGER BLADE LIFE with . . . KELLER POWER HACK SAWS



Cut everything from heavy bars to thin wall tubing faster and easier with Keller Power Hack Saws. Simple and efficient design prolongs blade life . . . keeps maintenance low. Available now, in 8 models, capacities up to 6¾" x 6¾". Kellers are low in price . . . high in versatility. Investigate Keller Saws for your cutting requirements!

The KELLER No. 5 Hy-Duty (shown above) gives you these outstanding features: (1) Patented Variable Blade Pressure Control; (2) Adjustable Bronze Bearings for guide bar in saw frame; (3) Automatic Lift on Reverse Stroke; (4) Quick Acting Swivel Vise; (5) Adjustable Foot Lift to saw frame.

Write for Bulletin . . . TODAY!

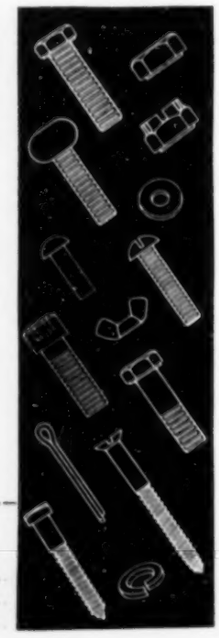
Sales Service Machine Tool Co. SSMT
PRESS RITE PRESSES - SHAPE RITE SHAPERS - KELLER POWER HACK SAWS
2365 UNIVERSITY AVENUE · ST. PAUL W4, MINNESOTA

If you write maker identify as IEN - 9242

HARPER HAS THEM!

Everlasting Fastenings by the Dozen or the Million!

- Specialists in bolts, screws, nuts, rivets, washers and fastening accessories!
- In brass, bronze, copper, aluminum, stainless steels, Monel!
- For all problems involving corrosion, heat, abrasion, stress, appearance!
- America's largest producer of non-corrosive fastenings!
- Larger stocks, greater selection —over 7000 items!
- Deliveries from nearby warehouse and distributor stocks!
- Ask for complete Harper Price List and Stock Book!



HARPER
EVERLASTING FASTENINGS

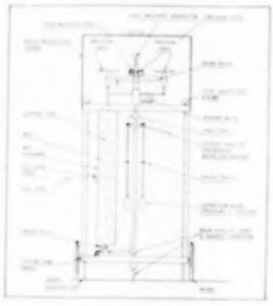
The H. M. Harper Company
8211 Lehigh Ave.
Morton Grove, Ill.
Rush Harper Price List and Stock Book

Name .....
Address .....
City ..... State .....

If you write maker identify as IEN - 9243

TESTING . . Portable calibrator for low pressure pneumatic instruments

Source: REPUBLIC FLOW METERS CO.
2244 Diversey Parkway, Chicago 47, Ill.



Checks instruments in place

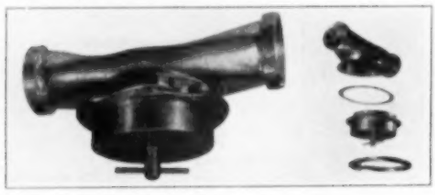
Flow meters, draft gages, differential pressure transmitters, can be checked for accuracy in a range between 0 and 20 in. of water column for pressure, for vacuum, or for both with this new calibrator. The unit accurately measures the pressure or vacuum in increments of 0.01 inch. It is mounted on a pair of wheels for portable application. Three adjustable load carrying rods provide a means to take the weight from the wheels and level the unit for precision use.

The assembly employs a standard pan type balance and an oil seal bell with a set of weights. These weights are employed on one or the other of the two pans for a vacuum or a pressure measurement and final adjustment is made by a rider that can be moved over the scale beam. One or the other of two aspirator bulbs then is operated to bring the balance indicator into zero position. At this point the previously connected instrument is read to see if the reading is correct. Overall dimensions are 19 by 24 by 44 inches.

If you write maker identify as IEN - 9244

SEPARATING . . Permanent magnet for ferrous particles in fluid in a pipe

Source: TRI-CLOVER MACHINE CO.
2807-11 60th St., Kenosha, Wis.



Meets sanitary requirements

Permanent magnet, flat and circular, is made up of a number of segments and is positioned in the cup-shaped base of this new Full Flow magnetic trap. The magnet presents a number of gaps to trap ferrous particles suspended in a fluid moving through a pipe line in which the separator is installed.

The body is made of Type-316 stainless steel unpolished or with polished finish. Sizes are 2, 3 and 4 in. in outside diameter. The pipe connection ends can be specified with Acme sanitary threads, Van Stone ends or pipe threaded ends. A snap ring clamp holds the lower body in place for quick access to clean the magnet. The unit is particularly suited to process chemicals, cosmetics, foods.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 9245

A Paid News Advertisement by Fabricated Products Co.

TOPSEAL FASTENERS

(Patent Applied For)

An effective nail type fastener for light gauge corrugated steel, aluminum sheets or other corrugated materials is offered by factory assembly of the one-piece metal and neoprene composition WEATH-R-SEAL WASHER (Patent applied for), to nail of appropriate type. Pictured is an aluminum nail, having 5/8" OD stainless steel-backed Weath-R-Seal Washer assembled. Nails may also be furnished with an aluminum or galvanized steel-backed washer.

Also pictured is a duplex (double headed) galvanized steel nail, having a galvanized steel-backed Weath-R-Seal Washer assembled. The feature of the double headed nail is its ability to be driven without danger of damaging corrugations; and ease of removal, if sheets are later dismantled.

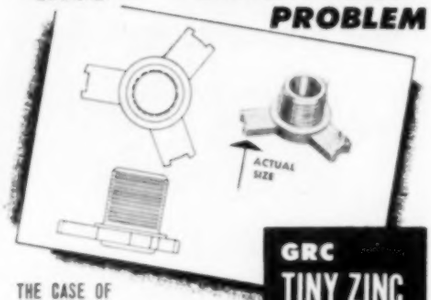
Tests have indicated that with this type of washer a seal capable of resisting 60# per sq. in. water pressure is obtained when fasteners are driven with as little as 12½ inch pounds driving torque. Fasteners employing washers of other types in the same tests required approximately 50 inch pounds torque to obtain only 75% efficiency in the number of fasteners tested—as compared against 100% efficiency of the Topseal units.

A most important feature of this assembly is that a Weath-R-Seal Washer from minimum 3/8" OD to maximum 1½" OD may be used with a standard head fastener, so as to provide extreme anchorage area for coverings exposed in hurricane areas.

FABRICATED PRODUCTS CO.
1952 WATER ST. WEST NEWTON, PA.

If you write maker identify as IEN - 9246

GRC SOLVES ANOTHER SMALL PARTS PROBLEM



GRC TINY ZINC DIE CASTINGS

THE CASE OF THE DIFFICULT ASSEMBLY

Mounting plates for variable controls widely used in electronic equipment were originally two-piece assemblies of brass screw machine parts and steel stampings. Gries die cast the complicated part in one simple piece for easy assembly at a big saving. GRIES zinc alloy parts can do a better job for you, too! Exclusive facilities produce simple or intricate tiny parts in one automatic operation . . . completely trimmed, ready for use . . . 100,000 parts to many millions.

Send us your specifications and get the complete story. *WRITE, WIRE, PHONE TODAY!*

SMALLNESS UNLIMITED
Max. Wt. ½ oz.
Max. Lgth. 1¾ in.

GRIES REPRODUCER CORP.
797 E. 132nd St., New York 54 • Phone: MOtt Haven 5-7400

If you write maker identify as IEN - 9247

50,000 PSI BOOST PUMP

Air Operated Hydraulic Boost Pump capable of output fluid pressures to 50,000 PSI from 100 PSI plant air supply.

Broadly applicable for static testing, powering presses for metal forming, shearing, clamping, etc. Various models available for either oil or water service applications where low volume output at high pressure is the requirement. Thousands in use. Simple . . . Reliable . . . Inexpensive.

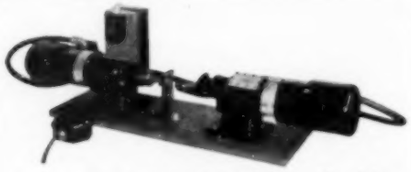
Model 216-C measures 8 1/16" wide x 9 1/16" deep

AIR OPERATED HYDRAULIC POWER UNIT

Model S-440 portable power package is a self contained unit supplied complete with Model 216-C Pump, and necessary controls. Capable of providing output fluid pressures to 30,000 PSI from 100 PSI plant air supply. Weighs 45 lbs. Measures 12" x 12" x 24". Write for Bulletin No. 500.

SPRAGUE ENGINEERING & SALES CORP.
1144 W. 135TH ST., GARDENA, CALIF.

If you write maker identify as IEN - 9248



Standard Opposed Drilling Machine

THIS Standard Govro-Nelson Drilling Machine is supplied completely wired so that the two Automatic Drilling Units work simultaneously from a momentary contact palm or foot switch with a dowel hole for fixture location. (Fixture not included.)

With the Units adjustable endwise up to 18" between chucks, it can be used as a centering machine. By mounting a simple hand-index fixture, it can be used for drilling wire holes in cap screws. Two opposed holes can be drilled at once. A riser plate permits the drilling of offset holes.

Why not drill two holes at the cost of one with this standard, versatile machine?

Write for literature, sending samples and part prints

GOVRO-NELSON CO.
1933 Antoinette
DETROIT 8, MICH.

Automatic **DRILLING UNIT**

If you write maker identify as IEN-9249

Mechanized Maintenance* —saved this roof!

Saved labor, time and dollars for its owner

• **A MECHANIZED GRAVEL REMOVER** . . . operated by one man, loosened the gravel and exposed the clean roof mat of the Old Goff Mills building in Pawtucket, R. I. . . . as fast as six men could do the job by hand spudding. Dry spots and cracks were readily accessible—easily repaired.

• **A MECHANIZED ROOFING PUMP** . . . delivered Tremco Roofing Preservatives from the ground, 65 feet up the side of the building, right to the dry felts. Resaturation was speedily accomplished . . . with no spillage . . . with one man doing the work of four.

THE TREMCO MAN recommended these Mechanized Maintenance methods after careful examination of this roof. Result: a revitalized roof that will give years of low maintenance service. And the job was done with substantial savings in time and labor! Write for 32-page booklet, "Solving Roof Problems." The Tremco Manufacturing Company, Cleveland, Ohio, or The Tremco Manufacturing Company (Canada) Ltd., Toronto. (UM-1018)

TREMCO THE TREMCO MANUFACTURING CO. CLEVELAND, OHIO

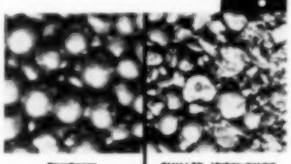
If you write maker identify as IEN-9250

IS THERE A DIFFERENCE IN ABRASIVE LIFE?

With all manufacturers claiming longer life for their abrasives, it's time to review the facts. Iron shot is still iron. Through annealing, drawing and other processes the life of some chilled iron abrasives has been increased so they can be sold as premium abrasives. BUT iron shot DOES NOT HAVE THE LIFE OF STEEL. Only *TRUSTEEL* Shot has the toughness and life of true steel. It is made of high carbon steel that has received a full heat treatment. That's why *TRUSTEEL* Shot maintains its size and shape longer, giving many more hours of efficient blast cleaning.

LIFE COMPARISON

TRUSTEEL retains its shape after 1500 passes. Chilled Iron breaks down after only 50 passes.

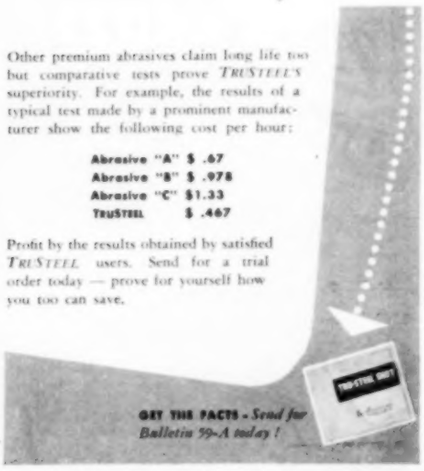


TRUSTEEL No. 230 at Mag. 10X | CHILLED IRON SHOT No. 230 at Mag. 10X

Other premium abrasives claim long life too but comparative tests prove *TRUSTEEL'S* superiority. For example, the results of a typical test made by a prominent manufacturer show the following cost per hour:

Abrasive "A"	$ .67
Abrasive "B"	$ .978
Abrasive "C"	$1.33
TRUSTEEL	$ .467

Profit by the results obtained by satisfied *TRUSTEEL* users. Send for a trial order today — prove for yourself how you too can save.



GET THE FACTS - *Send for Bulletin 59-A today!*

MFRS. BY STEEL SHOT PRODUCERS, INC.

American WHEELABRATOR & EQUIPMENT CORP. TRUSTEEL SHOT

507 S. Byrkit St., Mishawaka, Ind.

If you write maker identify as IEN-9252

ENGINES . . Gasoline vaporizer for cold weather engine starting

Source: ROBERT REICHHELM CO. 652 Sniffens Lane, Stratford, Conn.

Originally for aircraft

Three assemblies make up the company's new electrically operated Gasifier. It provides a flow of warm vaporized gasoline to the intake manifold of an internal combustion engine between its carburetor and the intake valve. This warm vapor combines with normal flow through the carburetor to warm the engine as the latter is cranked.

A pre-combustion chamber equipped with a spark plug connects to the gasoline supply line ahead of the engine carburetor and, at its bottom, through a short run of pipe to the engine manifold between the carburetor and the engine. The spark plug connects electrically through an ignition coil. A solenoid valve completes the equipment. It mounts in the gasoline line and connects with the coil to a push button on the control panel.

Upon pressing the button the solenoid valve admits gasoline to the pre-combustion chamber and at the same time energizes the ignition coil to operate the spark plug. A portion of the gasoline drawn in is burned to raise the temperature and vaporize the remainder which then flows into the manifold as the engine is cranked. The switch is released to stop the priming action as soon as the engine has warmed up sufficiently so the carburetor takes over.

If you write maker identify as IEN-9253

RECTIFYING . . Selenium unit sealed in plastic in aluminum channel

Source: SARKES TARZIAN INC. 413-17 N. College Ave., Bloomington, Ind.

Cells are protected

Sealing is accomplished and weight is conserved by embedding the elements of this new selenium rectifier in an ethoxyline resin mixed with a special filler and by enclosing the resulting resin block in a shaped aluminum channel to mount on the chassis of an electronic assembly. The plastic assists in dissipating heat from the rectifier cells to the channel which conducts it to the chassis for average temperature gradient between rectifier and chassis of 15 deg. C.

The rectifier is 50 per cent smaller in size than its comparable hermetically sealed oil filled counterpart. Weight is reduced below that of the oil-filled unit by 66 per cent.

The assembly is corrosion and fungus resistant and is inert to paint solvents and corrosive fumes. Cell sizes range from 1 to 2 in. square. The rectifier unit can be constructed in any electrical connections but cannot exceed 6 in. in overall length. Current load ranges from less than 1 milliampere to several amperes at six to several hundred volts.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9254

RETORT COKE WANTED

Manufacturer is in the market for a continuous supply of retort coke as formed on the upper walls and crowns of retorts or cells by the decomposition of heavy hydrocarbon vapors.

This material is usually quite dense and gray in color and can be segregated from the coal coke or removed from the cells at intervals. Highest prices paid.

Write or wire stating approximate quantities available.

BOX 1952
Industrial Equipment News
461 Eighth Ave., New York 1, N. Y.

If you write maker identify as IEN-9255

one million LBS. SPEED PATCH

WORLD'S FINEST, FASTEST, FLOOR FIXER!

SHIPPED TO A SINGLE CUSTOMER

Actually 1,044,014 lbs., Speed-Patch have been purchased by this ONE company. And other customers add up to *more millions* of pounds of proof that Speed-Patch knows no equal. Write for the full Speed-Patch story TODAY!

ROCK-TRED Corporation
Manufacturers of a Complete Line of Building Maintenance Materials
7440-7450 North St. Louis Avenue • Skokie, Illinois
In Canada: Rock-Tred Corporation (Canada) Limited, Toronto 3

If you write maker identify as IEN-9256

FLAT SPRING STEEL

PROMPT DELIVERY!

Roebling's expanded facilities can meet your needs right now!

NOW YOU CAN GET fast deliveries of Roebling high carbon flat mechanical spring steel—expanded facilities have boosted production to new highs. And Roebling flat spring steel comes as you want it—annealed, hard rolled untempered, scaleless tempered, tempered and polished, blued or strawed. Uniform quality saves preparation time for users; brings faster, smoother production . . . Write for full information. John A. Roebling's Sons Company, Trenton 2, New Jersey.

ROEBLING

If you write maker identify as IEN-9257

HANSEN

QUICK CONNECTIVE HIGH PRESSURE TWO-WAY SHUT-OFF COUPLINGS

Both ends of line are positively sealed when you disconnect the Hansen High-Pressure Two-Way Shut-Off Coupling. To connect, merely pull back sleeve and push plug into socket. Identical torpedo type valves in plug and socket permit free flow of gas or liquid. To disconnect, pull back sleeve—coupling disconnects and valves automatically and instantly seal both ends of line.

Where fluid lines may be damaged by sudden strain, coupling can be mounted in bracket to disconnect automatically—leaving fluid lines free, positively sealed, and—undamaged.

Series HK

Also straight through, and one-way shut-off couplings. Write for catalog.

THE HANSEN MANUFACTURING COMPANY

If you write maker identify as IEN-9258

Control Your Sequence Operations Automatically

this far better way

STALEY TIME CYCLE CONTROLLERS

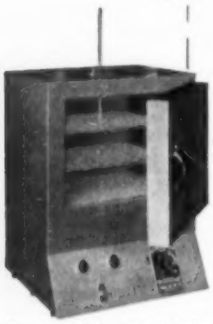
Start and stop motors, open and close relays, valves, etc. automatically in any predetermined cycle of time interval. Adjustable cams operate dependable Staley Metallic Mercury Switches for fully enclosed make and break. Standard, interchangeable parts and accessories provide wide range of adaptability in varying from 1 to 10 circuits. Reliability and long life proved in hundreds of installations.

Example—A two-circuit Staley Time Cycle Controller, used in reversing current several times a minute in a plating bath, has been operating 24 hours a day, 7 days a week for the past 5 years.

If you do things automatically, send for our helpful Bulletin No. 405.

ELECTRIC SWITCH CORPORATION
1302 E. Eleventh Street, Columbus, Indiana

If you write maker identify as IEN-9259



Complete with Thermostatic Control

$90.00
With Thermometer
$95.00
All Stainless Steel
$120.00
(Thermometer $5.00 extra)

HUPPERT KH 1200 LABORATORY OVEN

—Equalized oven heat at all times

Results from Huppert Ovens are always accurate. Thermostatic control accuracy ½ of 1° C. at any setting up to 425° F./220° C. This is achieved by a double venting system for constant dispersion of fumes and other exhaust air, permitting cleaner operation and better distribution of heat. Work chamber is stainless steel—12" x 10" x 10".

ALSO HUPPERT 5700 SERIES OVEN

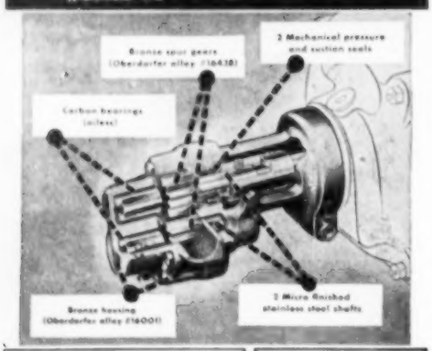
MODEL	I. D.	WATTAGE	TEMP. RANGE	PRICE
5700LT	20" x 15" x 19"	1400	80° F. to 350° F.	$180.00
5700MT	20" x 15" x 19"	1800	80° F. to 400° F.	$180.00
5700HT	20" x 15" x 19"	2400	80° F. to 500° F.	$180.00

(Centigrade scale optional)
1 hour timer—$10.00 additional
Write for literature

K. H. HUPPERT CO.
6856 Cottage Grove Avenue Chicago 37, Illinois
Manufacturers of Electric Furnaces and Ovens

If you write maker identify as IEN-9260

INTERNATIONAL Series II BRONZE PUMPS



DIMENSIONS & PRICES – Pump only				
Pump No.	Ht.	Width	Lgth.	Price
1½ CCC	5⅞"	5 11/16"	4¾"	$20.00
2 CCC	5 11/16"	5¾"	4⅞"	22.50

CAPACITIES – Gal. per min. 1725 rpm—lbs sq.in.		
Press.	1½ CCC	2 CCC
0 lbs.	2.00 gal.	4.00 gal.
25 lbs.	1.83 gal.	3.67 gal.
50 lbs.	1.67 gal.	3.17 gal.
75 lbs.	1.58 gal.	2.83 gal.
100 lbs.	1.50 gal.	—

Complete units with ¼ hp. 110 volt AC thermal overload motors (motor standard, but specially machined for pump mounting)... prices on request.

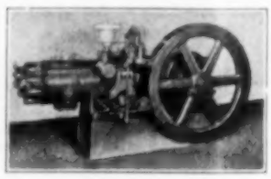
See our catalog in Sweet's File for PRODUCT DESIGNERS

Oberdorfer Foundries, Inc., Ind. Pump Div.
1128 Thompson Rd. Syracuse, N. Y.

If you write maker identify as IEN-9261

ENGINE . . Horizontal diesel, two cycle, rates 55 hp. at 325 rpm.

Source: WHITE-ROTH MACHINE CORP.
1934-38 W. 19th St., Lorain, Ohio



Specifications on request

Model DA designates a new single-cylinder two-cycle diesel engine with 13-in. bore and stroke. It has been developed as a companion power unit to the company's Model-L, O and R engines for general service. Overall dimensions are 117 by 55 by 60 inches. Weight is about 8,000 pounds.

Construction includes a wet-sleeve cylinder liner for replacement in the field, radiator-type cooling equipment, a Pickering governor, Air Maze intake cleaner, McCord lubricator and a built-in 7½ hp. Lorain gasoline engine starter. A Twin Disc clutch can be specified.

If you write maker identify as IEN-9262

CONTROL . . Solenoid latch holds press clutch for repeat operation

Source: BRINNELL CO.
51 Thomas St., Simsbury, Conn.

Power failure releases clutch

Presstop is a new solenoid operated latch to mount on a press housing adjacent to the clutch operating rod on which a stop is secured. The latch engages when the operator depresses the foot treadle or hand lever to make a hit. It holds the clutch in engaged position for repeat action until the operator presses a push button. This opens the solenoid circuit, releases the latch and permits the clutch to disengage. The solenoid is available for operation on 110 or 220 volt ac.

If you write maker identify as IEN-9263

TRUCK . . Hand lift design particularly for double face pallets

Source: SERVICE CASTER & TRUCK CORP.
545 N. Brownswood Ave., Albion, Mich.

Lift is toward operator

Load rating is 2 ton. Lift is through 4 inches. Five standard fork lengths are between 36 and 60 inches in this new Leverlift pallet truck. It is featured by an entering mechanism that raises the platform ends a little so they can be entered smoothly into the pallet prior to picking up a load.

Mounting is on ¾-in. wheels with 6-in. face near the ends. The front wheel diameter in the steering assembly is 10 inches. The load is lifted by operating a hand hydraulic pump. Controlled release of the hydraulic oil prevents dropping a load.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9264

NEW MAGNA BIT HOLDER

A REVOLUTIONARY, LABOR SAVING TOOL. CUTS SCREW DRIVING COSTS 3 NEW WAYS

Hand starting or pre-positioning screws in assembly operations *is no longer necessary*; a high energy *permanent* magnet in bit chuck holds the bit and energizes it with 10 times the "pull" to hold the screw *firmly* on bit. Labor costs are cut.

Reduces bit costs through the use of super hard, low-cost interchangeable insert bits.

Reduces bit wear and replacement since the energized bit seats itself positively in the screw slot or recess.

Bit holders available for all makes of power and spiral drivers. Also super hardened tool steel insert bits for all types and sizes of screws.

Permanently Magnetic Magna-Tip Hand Screw Drivers . . . bits for all types and sizes of screws
and Magna-Tip Hex Drivers for hex head screws

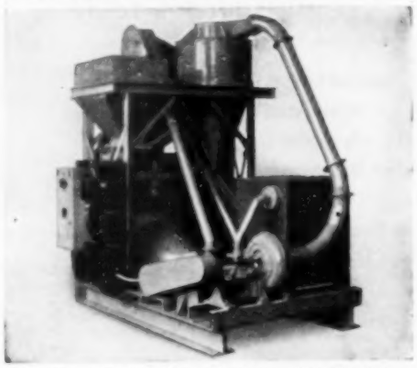
U. S. Patent No. 2,550,775

Write for Folder 60-E information and prices

MAGNA DRIVER CORP.
779 Washington St. Buffalo 3, N. Y.

If you write maker identify as IEN-9265

"PACKAGED" GRINDING SYSTEM



Complete with feeder, pulverizing mill, classifier, product and dust collector. Similar model for wet grinding. Bulletin AH-375-58.

HARDINGE COMPANY, INCORPORATED

YORK, PENNSYLVANIA—240 Arch St. Main Office and Works

NEW YORK 17 • SAN FRANCISCO 11 • CHICAGO 6 • HIBBING, MINN. • TORONTO 1
122 E. 42nd St. 24 California St. 205 W. Wacker Dr. 2016 First Ave. 200 Bay St.

If you write maker identify as IEN-9266

New! Low-Cost! Wide-Range!

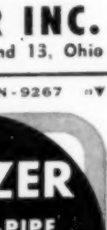
VARIABLE Speed Sheaves

Easily Attached to Any Machine

1/15 TO 15 HP.
RATIOS UP TO 8:1

• Simple, sturdy Speed Selector Sheaves are applied to any machine in only a few minutes . . . giving you wide-range speed control at extremely low cost. You get wide speed variations with standard V-belts, since two variable pitch sheaves are used. Eliminates bulky sliding motor bases, movable jackshafts and wide, high-cost special V-belts.

• Standard V-belts • Automatic belt alignment
• Fixed shaft centers • LOW COST



Write FOR FREE BULLETIN

SPEED SELECTOR INC.
118-A Noble Court • Cleveland 13, Ohio

If you write maker identify as IEN-9267

New **KRITZER**

FIN-PIPE COIL CATALOG Available

Eight, clearly-written, well illustrated pages give you every fact necessary to select and install KRITZER FIN-PIPE COILS AND COVERS for Industrial, Commercial and Institutional steam or hot water heating.

Write For Your Copy Today

KRITZER RADIANT COILS, INC.
2901 W. Lawrence Ave., Chicago 25, Ill.

If it's Kritzer, it's right, Sir!!

If you write maker identify as IEN-9268

EASY-OPERATING
NON-LUBRICATED
PLUG VALVES

DeZurik Plug Valves don't bind, can't seize . . . on any flow, an E-A-S-Y quarter-turn opens or closes them every time. They're non-lubricated, yet there's no friction and virtually no wear . . . DeZurik's exclusive ECCENTRIC PRINCIPLE literally lifts the plug off the seat, eliminates drag, prohibits scoring. The resilient plug-face closes dead-shut in any service: gaseous, fluid or fibrous. There's a DeZURIK VALVE to fit your job and solve your problem. Write for bulletin.

DeZURIK SHOWER CO.
SARTELL, MINNESOTA

If you write maker identify as IEN-9269

NEW REMINGTON STUD DRIVER
MODEL 450

Cartridge-powered tool sets fastening studs in seconds . . . SAFELY!

Completely self-powered, the amazing new Remington Stud Driver sets up to 5 fastening studs per minute—with no outside equipment, wires or cables required. Wood or steel structural sections are attached to steel or concrete surfaces in a matter of seconds!

Engineered for safety, the Remington Stud Driver is compact and portable . . . weighs only 5½ lbs. Swiveled construction permits easy loading, easy handling. All working parts of the Stud Driver are made of alloy steels . . . housing of strong, lightweight aluminum.

You can speed construction fastening up to 100 times faster than conventional methods with the Model 450 Remington Stud Driver. Why not see for yourself how this revolutionary new tool can cut costs and improve efficiency in *your* construction program. Send in the coupon below for complete information.

"If It's Remington—It's Right!"

Remington
DU PONT

Listed and Approved by Underwriters' Laboratories

CLIP AND MAIL THIS COUPON TODAY

Industrial Sales Division, Dept. IEN-8
Remington Arms Company, Inc.
939 Barnum Ave., Bridgeport 2, Connecticut

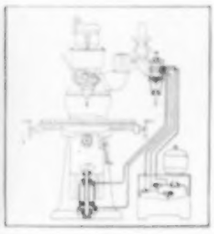
Please send me detailed information on the Model 450 Remington Stud Driver.

Name_____
Firm_____
Position_____
Address_____
City_____ State_____

If you write maker identify as IEN-9271

CONTROL . . Tracer attachment for automatic contour machining

Source: TURCHAN FOLLOWER MACHINE CO.
8257-61 Livernois Ave., Detroit 4, Mich.



Control action is hydraulic

New design of the tracer valve in the company's hydraulic equipment for machine tool control now makes it possible to hold accuracy of duplication between the template and the work to within 0.001 inch. This compares with the 0.003 in. which was best possible for the equipment previously described IEN-85-45.

Application is shown on a vertical milling machine beside which the power unit is installed and connected by hose and tube lines to the power cylinder. It takes the place of the table elevating screw for the single-dimension setup in this particular case. The tracer head mounts on an overarm secured to the machine housing. The template with which it applies is secured in a bracket support on the machine table beside the work. Additional designs in the line make it possible to control longitudinal and transverse movements of the table, as well as vertical, for multiple dimension action.

The hydraulic equipment with its motor driven pump is started and the metering valve marked "tracer" is opened. This moves the tracer tip to contact the template. At this point a valve marked "feed" is opened a little to move the work slowly toward the tool until it reaches a position where the setting can be made accurately. The feed valve is then opened for the desired rate of feed and the hydraulic equipment takes over the vertical feed function of the machine. When multiple dimension control is installed a directional control valve is added for selective operation.

If you write maker identify as IEN-9272

CLEANING . . Vacuum machine, wet or dry operation, 5 gallon tank

Source: MULTI-CLEAN PRODUCTS INC.
2281 Ford Parkway, St. Paul 1, Minn.

For the little jobs

Model MCV-205B is a new small size in the company's line of portable industrial vacuum cleaners, previously described IEN-6574-52. The new machine weighs 36 lb., can be carried by the handle on the top of its housing. It is driven by a ⅝-hp. 110-volt universal motor. It rates 108 cfm. and has a water lift of 52 inches.

Equipment includes an 8-ft. length of 1¼-in. flexible vacuum hose, a two-piece curved wand, a fabric type filter, a 12-in. floating brush floor tool for covered floors, a 9-in. brush tool for bare floors, a 5-in. upholstery tool and a flat fiber nozzle. A glass wool filter and two refill filter discs with a 9-in. squeegee tool can be specified for wet operation. The 5-gal. tank and motor driven blower are mounted as a unit on two wheels and a caster to be pulled about by the hose.

If you write maker identify as IEN-9273

TRUCK . . Shovel attachment for company's 2 ton power lift truck

Source: ELWELL-PARKER ELECTRIC CO.
4060 St. Clair Ave., Cleveland 3, Ohio

Scoop type assembly

Capacity for this new shovel attachment is 25 cu. ft. or 3,200 pounds. It has been designed to handle a variety of dry bulk materials such as sand, salt, sulphur, coal. The shovel body is trunnioned on a pair of arms that ride the truck carriage and is operated by a double acting hydraulic cylinder with a valve at the operator's position.

Position can be set for loading so the truck can drive into a pile of loose material. Then the body can be rotated to bring the loading lip up into carrying position prior to moving the carriage upward on the truck structure. By reversing the action of the hydraulic cylinder the body can be rotated to dump position at a desired height within the truck capacity.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9274

TRAFFIC NEVER STOPS

when you repair your floors with PERMAMIX

Easy to apply—sets instantly—long wearing for year around use indoors or out—WILL NOT FREEZE—can be stored indefinitely and used in any temperature—lowers maintenance costs amazingly.

Here's all you do. Clean hole in any type floor, spread primer supplied in drum, fill in with PERMAMIX, tamp and dust with cement or fine dust, resume traffic immediately. It's that easy, for PERMAMIX feather edges and no cutting or chipping is required. No skilled labor is necessary, you need no special equipment, you have no mixing, waiting or production delays when you repair or patch your floors the easy, fast PERMAMIX way. Comes in handy, durable 50 lb. net weight drums.

Write or call for full details

PERMAMix

PERMAMIX CORPORATION
230 N. La Salle St. Cent. 6-1785 Chicago 1, Illinois

If you write maker identify as IEN-9275

KIPP Air Grinders

• FASTER SPEEDS
• BETTER RESULTS
• LOW PRICES

MODEL JA
50,000 R.P.M.
Weight 12 ounces, length 6⅝ inches; chuck size ⅛ inch. Wheel guard removed for better illustration.

$42 IN U.S.A.

THEY GRIND--NOT JUST RUB!

The RPM's stay up while grinding . . . not only when the grinder runs idle.

It is an established fact that surface speeds must stay up to approximately a mile a minute if you want to grind . . . not just rub. Every mechanic knows this, but an inexperienced buyer may order tools that maintain proper grinding speeds only when running idle. The speed of Kipp air grinders drops but slightly when put to work. That means better work . . . longer wheel life.

MADISON-KIPP CORP.
224 Waubesa St., Madison, Wis., U.S.A.

Write for KIPP Air Tool Catalog AT 3006

If you write maker identify as IEN-9276

New XL BOND
FOR CARBIDE TOOL AND CUTTER
GRINDING

"XL" is Chicago Wheel's exclusive new bond for silicon carbide vitrified grinding wheels, especially made for grinding carbide cutting tools. Ideal for rough and finish grinding . . . offhand or precision automatic. Supplied in most popular sizes and steel backs. Prompt delivery. Keep your production up . . . costs down, with "XL."

Write today for information—Dept. N

CHICAGO WHEEL & *Mfg. Co.*
1101 West Monroe St., Chicago 7, Illinois
OFFICES IN PRINCIPAL INDUSTRIAL CENTERS

If you write maker identify as IEN - 9277

Solve "small parts" assembly problems

• Assemble • Press
• Rivet • Stake
• Punch • Mark . . .

with ½ ton or 1 ton Han-D-Press the new Hannifin air-operated bench press.

Write HANNIFIN

Hannifin Corporation • 1107 S. Kilbourn Ave. • Chicago 24, Illinois

If you write maker identify as IEN - 9278

Aerovent BELTED DUCT FAN

KEEPS MOTOR OUT OF AIR STREAM

For Foundries, Paint Spray Booths, Sanding, Acid Tank Rooms, etc., where fan motors must be protected.

Aerovent Belted Duct Fans with "Mackata" design handle maximum air with minimum use of power. Sizes 12" to 84", 2, 4, or 6 blades. All fans furnished with ball bearing motors suitable for mounting in any position. Easily installed. For many applications.

Other Models: Direct Connected, Man Cooling, Extended Shaft, Duct Type, Pulley Drive.

Write today for ENGINEERING BULLETIN

AEROVENT FAN CO., INC.

ASH AND BROWN STREET, PIQUA, OHIO

Sales Engineers in Principal Cities

If you write maker identify as IEN - 9279

FREDDY FEDERAL SAYS . . .

Service is often the key to low cost stampings. Securing the lowest bid isn't always enough. Exact uniformity of pieces, whether 10 or 10,000, is important. Meeting delivery schedules is often a deciding factor in operating at a profit . . . or a loss. And the manufacturer's willingness to stand behind his product is the best indication of quality.

Federal offers you these guarantees in their complete stamping service. These special services include complete die making facilities for stamping any metal, fiber, phenolic, or any other material that can be stamped, in any shape or size up to 9" x 12" and up to 3/16" thickness in quantities from 1 pieces to 10,000 plus, stamped skeleton name plates, and special stamped wrenches.

Send your prints for . . . better service . . . lower quotations . . . reduced "end-costs".

FREE . . . Our new Bulletin 161 describes Federal's complete service. Send for it today.

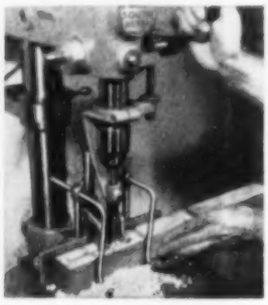
Federal TOOL AND MANUFACTURING CO. 3616 ALABAMA AVE. ST. LOUIS PARK MINNEAPOLIS, MINNESOTA

"QUALITY STAMPINGS IN SMALL QUANTITIES"

If you write maker identify as IEN - 9280

WOODWORKING . . Drill attachment holds work and drives mortising bit

Source: SOUTH BEND LATHE WORKS
301 E. Madison St., South Bend 22, Ind.



Chisel squares the hole

A fence assembly bolts to the work table of a drilling machine and a holder for the mortising chisel and bit is secured to the spindle quill in this new mortising attachment. Three sizes of chisel and bit are ¼, ⅜ and ½ inch.

The fence has 1 in. of adjustment on the base and capacity to take work to about 5¾ in. under the fork hold down and for ½ in. between the guide arms and the fence itself. Application can be made on most upright drilling machines having a 1¾-in. quill and employing a ½-in. chuck.

If you write maker identify as IEN - 9281

INSULATING . . Silicone resin for Class H electrical applications

Source: GENERAL ELECTRIC CO.
101 Plastics Ave., Pittsfield, Mass.

Where vibration is a factor

Type SR-98 is a new silicone resin that maintains its bonding strength and hardness at temperature to 90 deg. C above any of the company's previously developed silicone resins. Coils and other rigidly mounted components are held securely for high temperature service when it is employed. It produces a rigid product when used to treat glass cloth, asbestos paper or fabric and mica products.

The resin is supplied in 50 per cent solids content and is light amber in color. It can be thinned with xylene, toluene, or petroleum spirits. No catalyst is required. The material also is suited for use as a vehicle in caulking and sealing compounds. It can be applied between layers of coil insulation when filled with an inert material such as mica dust or talc. Heat-stable seal results after curing.

If you write maker identify as IEN - 9282

TRUCK . . Engine driven fork lift, 72 to 120 in. load height, 3 ton

Source: BUDA CO.
15401 S. Commercial St., Harvey, Ill.

Details in Bulletin 1570

Model FT60 with a gasoline engine and Model FTD60 with a diesel engine are new trucks in the company's Series-FT line. The engine can be specified as a 4 or 6 cylinder unit in two power ratings. Construction features accessibility for service and maintenance. Control centers at an automotive type single lever gear shift mounted on the steering column. Drive is through a heavy duty industrial type clutch. Load rating of 3 ton is based upon a 24-in. load center. The truck will operate with 42-in. forks in 75-in. intersecting aisles.

If you write maker identify as IEN - 9283

TESTING . . Electronic counter to check workers for radioactivity

Source: NUCLEAR INSTRUMENT & CHEMICAL CORP.
229 W. Erie St., Chicago 10, Ill.

For worker protection

A worker who has been exposed to beta-gamma radiation steps onto the platform of this new Hand and Foot Counter and places his hands in two paper lined slots. Five banks of decade indicators show radioactivity for his feet and for both sides of each hand. An automatic switch closes a circuit to signal "counter in operation" and then indicates whether the check is satisfactory or if decontamination is required.

Another signal is illuminated to advise resetting the machine and repeating the check if the worker does not remain in test position for the required length of time. This interval is controlled by a mechanism within the locked housing which resets itself after completion of each test.

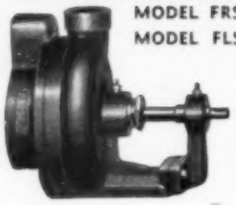
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 9284

FULFLO

MAKE SURE YOUR COOLANTS HIT THE RIGHT SPOT TO KEEP TOOLS COOL

CENTRIFUGAL COOLANT PUMPS



MODEL FRS4 Right rotation
MODEL FLS4 Left Rotation

Direct connection; 1800 to 2400 rpm; 35 gal. at 1725 rpm; 20 ft. head; also with pulley for belt drive, if desired.

Ask the FULFLO engineers what type will do your job best.

WHETHER you need a drop or two at a time or a constant stream, FULFLO PUMPS pump and circulate the coolant *just where* and *when* it will do the most good.

Write on your letterhead for professional edition of FULFLO MECHANICAL DATA BOOK

FULFLO THE FULFLO SPECIALTIES CO. Inc.
BLANCHESTER, OHIO

If you write maker identify as IEN - 9285

TWO NEW... Free MANUALS

Here in 12 compact pages is the basic information you need to select and specify electrical insulation:

Complete, easy-to-read charts explain applications, mechanical and electrical properties, grades of Diamond Vulcanized Fibre, laminated Dilecto, Vulcoid and Micabond. Low-cost Spiral Tubing, Celoron, and C-D-F Teflon also are discussed. More information in less space make this C-D-F General Folder, hot off the press, well worth reading.

and . . .

If you saw, punch, form, fabricate plastics, this handbook can help you. Based on C-D-F's factory experience, it supplements technical information in new general folder.

Write for both now!

CDF Continental-Diamond Fibre Company
NEWARK 21, DELAWARE

If you write maker identify as IEN - 9286

THE NIBBLEX

even cuts CORRUGATED SHEET METAL as clean as a whistle! NO SHEARING ACTION - BUT

A NEW PRINCIPLE OF A DIE and PUNCH

No Bending • No Burrs • No Rough Edges

Fits any ¼" drill, air or electric. Precision made. Weighs only 11 ozs. Still cuts up to 20 ga. regular steel, 16 ga. tempered metals. Cuts circles 1" radius. Uses side punch for corrugated sheets, straight punch for flat.

Price only $13.75 with one punch. Additional punch $3.15

TRY IT FREE FOR TEN DAYS WITHOUT OBLIGATION
Pay only if you keep it.

Nord INTERNATIONAL CORPORATION
P. O. Box 44 N Denville, N. J.

If you write maker identify as IEN - 9287

LINEMASTER TWIN COMPACT

THE LIGHTEST, TINIEST, MOST EFFICIENT FORWARD-REVERSE SWITCH

ONLY $8.50* (*less in quantities)

Tell us your special problems and let us quote

Write for folder and prices TODAY

Try TWIN-COMPACT — the new midget marvel with twice the size, twice the efficiency of the sensational new LINEMASTER COMPACT, because it works both ways. TWIN-COMPACT is foolproof, sensitive—responds to touch of foot, finger, knee or elbow. SMALL—a pair of 4½-oz. Compacts mounted on a non-skid base. Yet AMAZINGLY RUGGED—made of heavy-gauge steel with handsome black crackle finish. Use TWIN-COMPACT PROFITABLY for an unlimited number of industrial small machine operations.

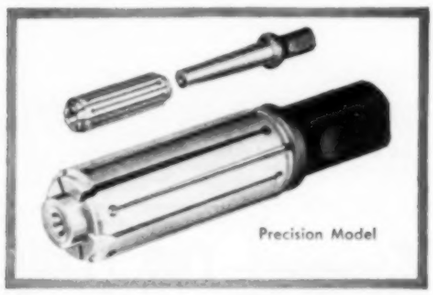
LINEMASTER SWITCH CORP.
DEPT D • P. O. BOX 312 • PUTNAM, CONN.

If you write maker identify as IEN - 9288

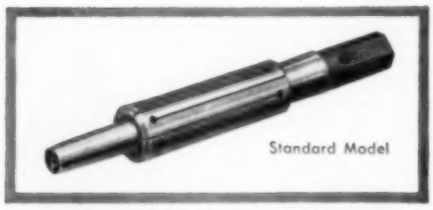
CHAMPION
E-X-P-A-N-D-I-N-G
MANDRELS

work savers—cost cutters
job speeders—in any shop

Save the time spent tooling up solid mandrels. CHAMPION mandrels automatically expand to exact, positive, concentric fit as the flexible sleeve is moved along the tapered arbor. Work is quickly set up; easily taken down. Your production costs are cut, whether the job calls for machining only one piece or ten thousand pieces.



Precision Model positively guaranteed for precision grinding, turning and milling operations. Ideal where accuracy and time-saving are of utmost importance. Available in standard sizes from ½" through 3" diameter, graduated by 1/16". Arbor built for heavy loads. Sleeve has range of .010", from .003" under to .007" over nominal size. Positive stop at maximum size prevents overstrain. Holds tolerances of .0002" run out. Withstands hardest wear; permanent accuracy is assured.



Standard Model used throughout the world. Standard tool room equipment in all phases of modern industry. A set of twelve will completely and accurately fill any hole from ½" to 7" diameter—replace hundreds of solid mandrels costing many times as much. Show negligible wear after years of use. Maintain close tolerances, handle material of any length bore, hard or soft metals, from thin tubes and bushings to heavy castings and forgings.

CHAMPION Expanding Mandrels can be made in special shapes and sizes to fit any specification. Quotations on request.

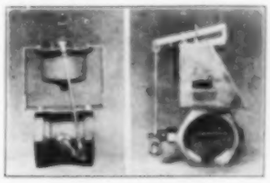
When writing, please address Dept. 200.

WESTERN TOOL & MFG. CO., INC.
SPRINGFIELD, OHIO

If you write maker identify as IEN - 9290

VALVE . . Bellows operated unit, butterfly design, 1½ to 6 inches

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO.
4456 Wayne Ave., Philadelphia 44, Pa.



Pressure opens or closes

Grad-U-Motor trade names the bellows operating mechanism on this new bronze body butterfly valve. It connects by linkage to the trunnion mounted vane in the valve. It rotates the vane between open and closed positions as actuated by a pneumatic instrument transmitting air pressure to 15 pounds.

Maximum operating temperature is 250 deg. F. Maximum pressure at the valve is 20 lb. per square inch. A Gradutrol relay can be specified as extra equipment for positive valve positioning in throttling control.

If you write maker identify as IEN - 9291

SEALING . . Sheet materials, asbestos, cellulose, to 2,000 pounds

Source: ARMSTRONG CORK CO.
1012 State St., Lancaster, Pa.

Absorbs heavy . Range pressures

Asbestos with Buna N synthetic rubber binder to seal liquids and gases at temperatures to 750 deg. F., and cellulose fibers with finely ground cork and synthetic rubber for liquids and gases to 250 deg. F. are new sheet materials trade named Accopac. The former is available in sheet and continuous rolls and ribbons. It is non-directional, homogenous and has compressibility of 30 to 35 per cent under load of 2,800 lb. per square inch. The sheet can be bent double without cracking or losing its sealing properties. It die-cuts clean.

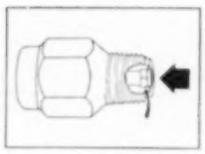
The cellulose sheet is available in sheet, roll and ribbon form and also in cut gaskets and washers. It is homogeneous, impervious and will hold internal pressure from 1,000 to 2,000 lb. per square inch. Both sheet materials are made by a new patented modification of the beater saturation process in which the fibers are treated with water dispersions of rubber or resin to distribute an even coat over each fiber before the sheet is formed.

Four thicknesses range from 1/32 to 1/16 in. in the asbestos type. The cellulose sheet is available in these same four thicknesses and also in an additional 3/32 inch. Both materials are supplied in 50 sq. yd. rolls in thicknesses under 1/16 in. and 25 sq. yd. rolls in 1/16 and 3/32 inch.

If you write maker identify as IEN - 9292

INSULATING . . Pressure snubber protects gage against shock loading

Source: EQUIPOISE CONTROLS INC.
P. O. Box 269-A, Dept. IEN, Bronxville, N. Y.



Stops pressure surge

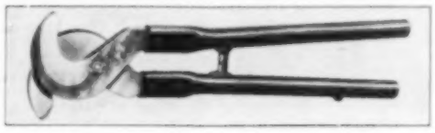
New design to include a body with flats to take a wrench has been added to the company's line of pressure snubbers, previously described IEN-2644-48. As in the previous design a porous disc of stainless steel is the pressure snubbing element. It acts as a filter as well as a snubber to keep foreign matter out of the gage mechanisms.

Two sizes are threaded for ¼ and ½-in. pipe. Both are made of stainless steel or brass for operating pressures to 20,000 and to 15,000 pounds. Maximum differential is 500 lb. per sq. in. in the standard design. Others can be supplied with differential to 5,000 pounds.

If you write maker identify as IEN - 9293

CUTTING . . Lever operated tool for insulated cable to 1½ inches

Source: THOMAS & BETTS CO.
60-A Butler St., Elizabeth 1, N. J.



For bare or insulated copper or aluminum cable

No. 365 designates new lever-operated tool employing curved cutting jaws and lever handles providing a mechanical advantage of 18 to 1. The jaws will cut through insulation and copper or aluminum cable to 500,000 cm. It cuts without deforming the cable leaving the individual strands free from burrs. Stops on the handle maintain a minimum opening so an operator's hands cannot be pinched.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 9294

KUSHION-TORQ
WHAT IT WILL DO FOR YOU

The Cushion Torque of Kanti-Lever Couplings absorbs the hammer blows of sudden or reversing loads and dampens the torsional and radial vibration that causes wear, fatigue and sometimes failure of Motors, Speed Reducers, Ball Bearings and productive machinery. No other coupling is like the Kanti-Lever: It has a circular series of laminated Cantilevers of 200,000 lb. steel, operating in slots, the tapered sides of which automatically stiffen the Cantilevers under increased overloads. Special end-play up to four inches is possible without end thrust. The outer periphery of the Kanti-Lever is available as a brake drum for quick-stopping or reversing machinery.

Send for Bulletin No. 28 N.

Kanti-Lever Couplings

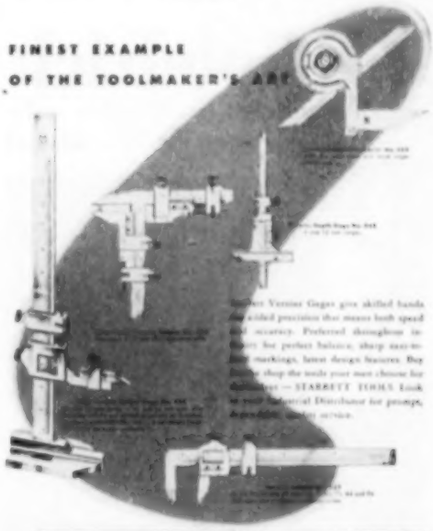
4,000,000 h.p. in Use

MFRS. OF SECTIONAL STOCK RACKS

BROWN ENGINEERING CO.
122 NORTH 3rd ST. READING, PENNA.

If you write maker identify as IEN - 9295

FINEST EXAMPLE OF THE TOOLMAKER'S ART



Starrett

If you write maker identify as IEN - 9296

NEW *Flame-retardant* plastic laminate

It's lit . . .

seconds later...It's out

A newly developed Synthane plastic laminate, incorporating a flame retardant, is now available. It is self-extinguishing and free from afterglow. It provides increased safety for electronic equipment, television printed circuits, aviation and electrical components. The flame retardant property, available in any of our standard grades, has no adverse effect on Synthane's other properties, such as ease of machining and punching, mechanical strength, density, and dielectric characteristics. Sheets, rods, tubes and fabricated parts are obtainable in flame-retardant Synthane at a slight increase in cost. For complete information clip and mail the coupon today. No obligation, of course.

SYNTHANE

Manufacturers of laminated plastics
SHEETS
RODS • TUBES
MOLDED-LAMINATED
MOLDED-MACERATED
FABRICATED PARTS

SYNTHANE CORPORATION
South River Road, Oaks, Pennsylvania

Gentlemen:
Please send me additional information on flame-retardant Synthane laminated plastics.

Name .....
Firm Name .....
Address .....
City ..... Zone ..... State .....

If you write maker identify as IEN-9297

NEW ZENITH MAGNETIC SOLENOID CONTACTORS

★ SOLENOID OPERATED
★ FINE SILVER CONTACTS
★ SIMPLIFIED WIRING

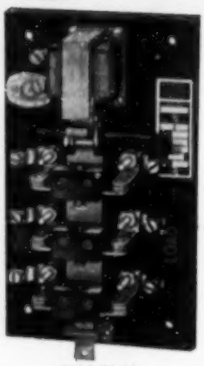
This ZENITH Contactor is built to withstand the severe service demanded by loads based on Type-C lamps.

It is designed on the straight-line principle, with the solenoid being connected directly to the contact bar.

The advantage of this method of construction is its easy access to any part for quick inspection or service, without disturbing other parts.

Models: Size 1 - 25 amps. Size 2 - 50 amps.

Either size can be supplied in any number of poles.



TYPE SC 33

SEND FOR FREE CATALOG

This big, illustrated catalog contains all the newest items in automatic control equipment made by Zenith. Write now for your copy!

ZENITH ELECTRIC CO.
146 W. WALTON ST., CHICAGO 10, ILLINOIS

If you write maker identify as IEN-9298

B.F.Goodrich

industrial tires save with every turn of the wheel

Do you have maneuverability problems?

Know how to save on trailer tires?

Free T&W ANALYSIS may save you up to 50%

● No matter what materials handling problems you have involving tires and wheels, you can get expert advice and assistance that will save you money. Under the B. F. Goodrich T&W (tire and wheel) Analysis Plan, a man trained in this work analyzes your operation. He carefully notes the type of equipment, loads, speeds, hauling surfaces and any unusual problems involved. Then he makes recommendations as to the right type, size, tread compound and tread design best suited for your job. He makes suggestions on maintenance.

Because B. F. Goodrich makes a *complete* line of tires—solids, pneumatics and semi-pneumatics—and offers a wide range of tread designs and compounds, his advice is impartial—unbiased.

Why not take advantage of this service without any obligation? Send in the coupon or call your B. F. Goodrich dealer. BFG dealers sell and service a complete line of industrial tires.

A special T&W Analysis Plan is available for manufacturers of industrial hauling equipment.

The B. F. Goodrich Co.
Department TW-195
Akron, Ohio

Please give me additional information on your new Tire and Wheel Analysis plan.

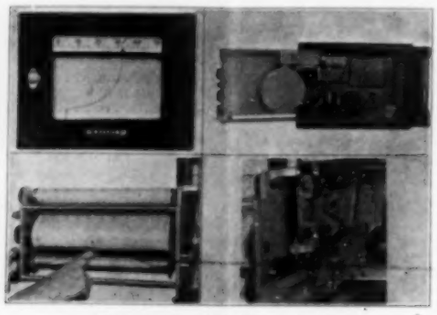
Name_____
Title_____
Company_____
City_____ State_____

B.F.Goodrich

If you write maker identify as IEN-9300

RECORDING . . Strip chart instrument for any electrically impulsed variable

Source: WESTON ELECTRICAL INSTRUMENT CORP.
641 Frelinghuysen Ave., Newark 5, N. J.



Accuracy is within 0.25 per cent

Accessibility for adjustment, chart change and cleaning characterizes this new potentiometer type strip chart recorder. Assembly is in a housing that measures 15¾ by 11½ by 14¾ inches. Installation is in a standard radio rack or by means of adjustable mounting brackets on panels to 1 in. in thickness. Universal mounting is provided for flush, wall or table application. Servicing and inspection are from the front. Variables that can be measured include temperature, ac. and dc. voltage or current, resistance, speed, speed ratio, power, frequency, pH, light intensity or any other quantity that can be converted into electric impulses.

The chart frame swings out to 180 deg. with the housing on straight pivots, the pen lifting when the frame is swung so it is clear of the chart. Chart speeds and range changes are made by screwdriver adjustment. A slider on the range panel permits correction for electrical zero. The pen operates without pumping or siphoning off. It requires no priming after it has been started and will not spoil the record chart by blotting at low speed. It is located in a carriage fitted with oilless bearings and is driven by a woven stainless steel cable.

The carriage is counter balanced so the records are drawn with a feather touch. The pen can be filled after the frame is opened wide. The amplifier that receives the electrical impulses employs standard tubes that do not require matching and can be obtained at any radio supply store.

If you write maker identify as IEN-9301

METAL TREATING . . Liquid material forms phosphate paint base on metal

Source: OAKITE PRODUCTS INC.
116-A Rector St., New York 6, N. Y.

For production and maintenance

Simultaneous cleaning and metal treating are performed on aluminum, steel, cast iron by application of the company's new Compound No. 31. The material has detergent properties to remove light soils, soldering and welding fluxes, rust, heat scale, tarnish and other oxides. At the same time it microscopically etches steel and cast iron and converts the surface layer of the metal into a thin film of insoluble phosphate.

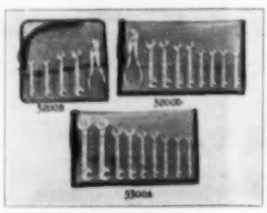
The etching and conditioning action on aluminum sheet and castings is similar to that on cast iron and steel. Excellent adhesion is provided for a subsequent coat of paint. The inert film prevents the spread of rust when painted surfaces are scratched or gouged. Corrosion is confined to the exposed area of the metal resulting from such action.

The liquid is supplied as a concentrate for dilution to 25 per cent by volume with water for dipping or hand swabbing. Packaging is in 440-lb. barrels, 135-lb. carboys and cases of four 1-gal. containers.

If you write maker identify as IEN-9302

WRENCHES . . Midget open end in three sets, two include a plier

Source: PROTO TOOLS
2207-11 Santa Fe Ave., Los Angeles 54, Calif.



Each set in plastic kit

Set 3200B is one of three new midget wrench sets. It includes four obstruction type wrenches with eight opening sizes ranging from 3/32 to 5/16 in. and a 4½ in. midget plier.

Set 3200D contains the same tools as in the first set plus four additional wrenches. It provides eight opening sizes in both 15 and 60-deg. head angles.

Set 3300A contains nine electrical type wrenches with openings ranging from 3/32 to ½ inch. Each wrench in this set has the same opening on both ends but one is at a 15-deg. angle and the other is at 80 degrees.

All of the wrenches in each set have narrow shanks, compact heads and small fillet radii. They work well near obstructions where clearance is restricted.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 58

If you write maker identify as IEN-9303

"Industrial Dermatitis Control and Plant Sanitation"

A New Free Bulletin for Safety & Sanitary Engineers

- This bulletin describes new methods to control Industrial Dermatitis from cutting oils and process materials.
- Gives positive plant sanitation methods to protect health.
- Explains Odor-Control that deodorizes and disinfects without leaving the slightest odor itself. New and better sanitation in locker rooms, rest rooms and plant restaurants. All developed from 25 years of successful specialization in this field.
- Describes causes of Industrial Dermatitis. Discusses cutting oil infections, odors and oil sludge. Tells how to stop at the source.
- Contains data on preservation of process materials in metal-working, ceramic and general manufacturing plants.
- Gives important pointers on Industrial Sanitation, disease and odor prevention. Many helpful hints. Hundreds now using these safe methods.
- *Safety Engineers, Sanitary Engineers* write for this Bulletin now! Use it for handy reference in your plant Safety, Health and Sanitation. It is yours for the asking.

THE NATRIPHENE COMPANY
424 BOOK BUILDING • DETROIT 26, MICHIGAN
Serving Industry for 25 Years—A Truly Specialized Service

If you write maker identify as IEN-9304

SUB-MINIATURE CANNON PLUGS

tiny but rugged

Series D—the new sub-miniature Cannon Plugs have 15 contacts for #20 or #22 AWG stranded wire. Others in the series have 25, 37 and 50 contacts. These new plugs meet a long felt need of the Electronics Industry for a sturdy, versatile, and extremely compact connector for use on miniaturized equipment of all kinds. Junction shells make them useable as (1) rack and panel (2) box (3) wall, or (4) cord connectors.

Contacts are machined from copper base alloy, gold plated, rated 5a. High dielectric insulators. Minimum flashover 1000 v. rms. Write for bulletin D-1.

CANNON ELECTRIC

SINCE 1925—Factories in Los Angeles, Toronto, New Haven, Benton Harbor. Representatives in principal cities. Address inquiries to Cannon Electric Company, Dept. H-122, P. O. Box 75, Lincoln Heights Station, Los Angeles 31, Calif.

If you write maker identify as IEN-9305

Sheehan's TWO PLANE RUBBER BELT MODEL BR.

Another one of the famous Sheehan line of Press and Forge Conveyors—designed for exceptional maneuverability and hard service. This oil-resistant rubber belt is for carrying material that can not be conveyed on metal belts, such as stamping slugs, etc. Top of loading end of belt is within 8 inches of floor. Saves valuable working space because it will go back *under* presses with ease. Investigate the many construction and safety features not found in other conveyors.

Write today for literature on sizes, special applications and cost data. You will be surprised at Sheehan's high quality and low prices.

LOWER COST LONGER LIFE
Sheehan Press Conveyors can solve your Press Room problems—

Conveyors
R. T. SHEEHAN CO. PLYMOUTH, MICH.

If you write maker identify as IEN-9306

THERE'S *Safety* IN THESE NUMBERS

Stop Losses
Control Costs
Guard Formulas

ROCKWELL INDUSTRIAL METERS

Let Rockwell industrial meters "police" for your accountants and production supervisors every liquid movement within your plant. You can install these lastingly accurate guardians with profit when batch mixing formulas, for inventory records, for cost identification. A size and type meter for every need. Measure practically every liquid. Write for bulletin.

ROCKWELL MANUFACTURING COMPANY
Dept. B4, 400 N. Lexington Ave., Pittsburgh 8, Pa.

If you write maker identify as IEN-9307

Phillips
INDUSTRIAL TRAILERS

✓ FOR HAULING ALL KINDS OF INDUSTRIAL PRODUCTS—MATERIALS
✓ MADE IN SIZES AND CAPACITIES TO MEET YOUR NEED
✓ FEATURE TIMKEN BEARINGS PNEUMATIC OR SOLID TIRES ALL STEEL WELDED CONSTRUCTION

MODEL TF-50
2½ Ton Capacity

MODEL TD-400
20 Ton Capacity

Write today for complete data!

Phillips Industrial Trailers simplify hauling of heavy loads in and around industrial plants . . . with substantial savings in time, effort, and money. Ruggedly built to withstand long, hard usage, these trailers are available in 2½, 5, 10, 15 and 20 ton capacities. Easily maneuverable—they can be used singly or in tandem, for every industrial hauling requirement.

MANUFACTURERS SINCE 1863 PHILLIPS WIRE AND MILL SUPPLY COMPANY PITTSBURGH, PA.
MATERIALS HANDLING EQUIPMENT
2500 JANE STREET • PITTSBURGH 3, PA.

If you write maker identify as IEN-9309

PUMP . . Motor driven centrifugal with weight control for sump duty

Source: GOULDS PUMPS INC.
301 Falls St., Seneca Falls, N. Y.

This is Figure 3631

Inlet connection to this new Cellar Drainer pump is in horizontal position near the top of a priming chamber within which the centrifugal impeller operates. As a result the pump will not lose its initial prime. The length of the horizontal connection can be established for any amount to 8 ft. so the pump and its motor need not be directly over the sump. The intake line turns down to a strainer at the bottom. Liquid level is sensed by a pair of adjustable weights suspended from the motor control switch to start and stop the motor at predetermined points.

The pump rates 40 gpm. at a 10-ft. head, 16 gpm. at 24 feet. The motor rates ¼ hp. Suction and discharge connections are 1 inch. Sump depths are 2 and 5 ft. in standard construction. Covers are available to fit standard 18-in. sewer tiles.

If you write maker identify as IEN-9310

ELECTRIC CIRCUITS . . Plastic sheet, metal coated for printed circuit makers

Source: PANELYTE DIVISION
230 Park Ave., Room 1350, New York 17, N. Y.

Please note our error

We were in error when we stated in IEN-5246-52 that the company had established a contract service to supply completed printed circuits for use in electrical and electronic equipment. Actually the company supplies only the coated Panelyte sheets for others to make the circuits. The sheets are in two sizes measuring 36 by 36 in. and 36 by 47 inches. They are copper surfaced and protected by a film to prevent damage to the surface or oxidation of the copper. This film can be removed by peeling or by a toluene wash. The sheet is also available with aluminum surfacing. The sheet will withstand temperatures to 450 deg. F. for the few seconds required for dip soldering to complete a circuit.

If you write maker identify as IEN-9311

HANDLING . . Tube manipulator protects worker handling glass tube

Source: LABLINE INC.
215-19 N. Desplaines St., Chicago 6, Ill.

Two in a box $6

Grip-Safe trade names a new neoprene serrated and slotted grip with which a worker can secure a glass tube or a thermometer for insertion into a stopper or with which he can hold a tube that he wishes to break after marking it with a file or cutter. The unit protects the worker's hands. It also protects the tube. The slot into which the tube is inserted permits the unit to hold shapes as well as straight lengths.

If you write maker identify as IEN-9312

TESTING . . Portable pH meter and probe unit, battery operated

Source: ANALYTICAL MEASUREMENTS INC.
583-87 Main St., Chatham, N. J.

To carry to job

New meter is enclosed in a leather carrying case with plastic tubes, a buffer and KCl solutions and with a calomel and glass electrode in combined assembly with the sample holder in a polyethylene probe. The meter reads direct from 2 to 12 pH and can be adjusted to read from 0 to 10 pH. Accuracy is within 0.1 pH.

Power is supplied by hearing-aid type batteries that provide for 1,300 hours of operation. The electrometer tube, switch and input connector are sealed in a single unit. Grounded samples can be measured directly since there is no external power connection. Both the instrument and the electrode are shielded. Instructions are printed on the housing face. Weight is 3 pounds. The housing measures about 3 by 2½ by 6 inches.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9313

RUGGED *Century* MOTORS help KEEP PRODUCTION ROLLING

Arrow shows 7½ horsepower Century Slip Ring motor installed on a large bending roll.

Century Motors are designed for stamina, engineered for long, dependable service, carefully tested and balanced for precision performance.

What's more, you can select a size and type of Century Motor that's exactly right for your particular job. They're built in sizes from ⅛ to 400 h.p. — to meet all kinds of atmospheric or plant operating conditions.

Why settle for less than a Century, when you specify your next electric motor?

Century Motors

CENTURY ELECTRIC COMPANY
1806 PINE STREET • ST. LOUIS 3, MO.
CE-794R Offices and Stock Points in Principal Cities

If you write maker identify as IEN-9314

SHORTER and SNAPPIER!

New Rotor "Multi-power" Chipper gets into crowded quarters . . . gets the job done faster

The "doughnut" valve of the 15 new Rotor "Multi-power" Chipping Hammers makes possible greater compactness of design and gives faster cutting. It is a real "cost-sinker".

Shorter and lighter. The 15 new "Multi-power" Rotor Chippers average 1" to 2" shorter than other chippers—easier to get into corners. It weighs 1½ to 2 lbs. less than other hammers—easier to handle.

3 Tools in 1. The unique design makes it easy to adapt each hammer for 3 types of service by a simple change of parts. You have: (1) A "regular" model, (2) A "super-speed" model, (3) A "super-stock" model—to match your job.

Faster. New exclusive design of valve and hollow piston gets jobs done faster.

Write for complete details today! Ask for catalogue No. 57.

AIR O'TOOL

THE ROTOR TOOL CO.
CLEVELAND, OHIO
UNBIASED ANALYSIS OF PORTABLE TOOL PROBLEMS

If you write maker identify as IEN-9315

FLAT HEAD SOCKET CAP SCREWS
for assembly of THIN-SECTION MATERIALS

Maximum head contact, flush surface assembly, non-slip internal wrenching, high shear and tensile strength are features of these precision fasteners. SPS recommends *Standards*. Sizes from #4 to ¾" available from your UNBRAKO distributor's stock. Write for your copy of UNBRAKO *Standards*. STANDARD PRESSED STEEL CO., Jenkintown 14, Pennsylvania.

UNBRAKO SOCKET SCREW DIVISION SPS JENKINTOWN PENNSYLVANIA

If you write maker identify as IEN-9316

When is a lathe too big?

A lathe is too big when:

SHELDON
CHICAGO

(1) When it is too large and complex for any but the most experienced to operate safely.

(2) When the power cost is excessive for the tool load.

(3) When the tool investment is out of all proportion to the requirements.

(4) When it is too cumbersome and too slow.

(5) When it takes up floor space, heat and light in which output could be multiplied with smaller machine tools.

Modern Sheldon Precision Lathes eliminate these excess costs and loadings on many everyday operations—leaving far more on the profit side. 10", 11" and 13" Swing. "Zero Precision" Tapered Roller Bearings. Increased collet capacity.

Write for Catalog

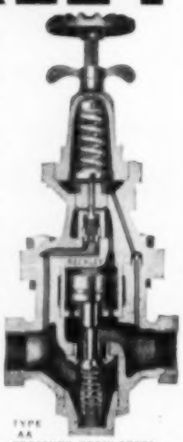
SHELDON MACHINE CO. Inc.
4208 N. KNOX AVENUE • CHICAGO 41, ILLINOIS, U. S. A.

If you write maker identify as IEN-9317

KECKLEY

pressure regulators

Designed for better control at less cost



When you buy pressure regulators for steam, air or gas service, you want accurate control of reduced pressures which you can depend on, day in and day out. You also want low maintenance, and long service for greatest possible economy. Our years of experience in building precision regulators assures you of getting these advantages. Ask your Keckley representative or your industrial distributor about the correct regulator for your job!

SEND FOR CATALOG SIE WITH COMPLETE INFORMATION ON KECKLEY'S COMPLETE LINE

- RELIEF VALVES
- FLOAT BOXES
- SOLENOID VALVES
- BALANCED VALVES
- FORGED STEEL GAUGES
- MOTOR OPERATED VALVES

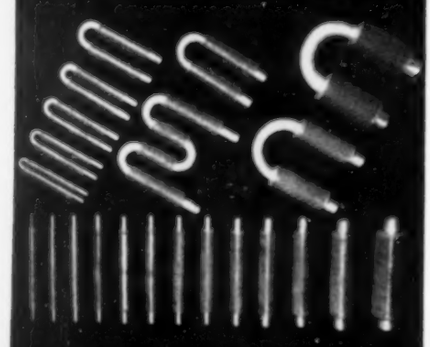
TYPE AA

- PRESSURE REGULATORS
- TEMPERATURE REGULATORS
- PUMP GOVERNORS
- FLOAT VALVES
- POP SAFETY VALVES
- STRAINERS

O. C. KECKLEY COMPANY
400 West Madison Street • Chicago 6, Illinois

If you write maker identify as IEN-9318

RO-FIN TUBES
IDEAL SURFACE FOR HEAT TRANSFER



Over 100 sizes in production!

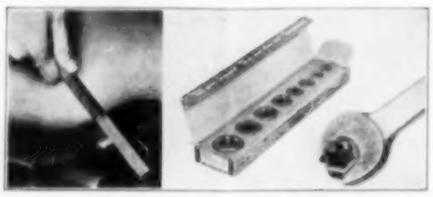
ROME
TURNEY RADIATOR COMPANY

200 East Front Street • Rome • New York

If you write maker identify as IEN-9319

THREADING . . File type cutter and nut type dies for damaged threads

Source: JAW MFG. CO.
37-43 Mulberry St., Dept. 674, Reading, Pa.



$2.50 each $3.50 per set

The company announces purchase of the Krome Company and combination of that company's thread restoring file with its own nut type dies to make these two types of thread repair tools available from a single source. Both tools have been on the market singly for a good many years.

The file cutter carries 8 different thread pitches on its square body. One set is for threads ranging from 11 to 24 per inch. Another ranges from 9 to 32 threads per inch. The dies are available in kits containing 7 units for USS threads from ¼-20 to ¾-10 or 8 units for SAE threads from ¼-28 to ¾-16.

If you write maker identify as IEN-9320

LUBRICATING . . Lathe center grease is based upon molybdenum disulfide

Source: ALPHA CORP.
177-81 Hamilton Ave., Greenwich, Conn.

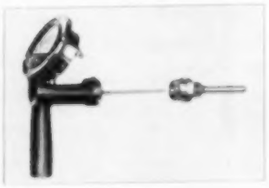
Will withstand heavy pressures

Centerlube is a new grease in the company's Molykote line of molybdenum-disulfide lubricants. The new material is packaged in 2-oz. tubes, 12 to a carton. It is intended for use on lathe dead centers, on steadyrests and to minimize wear on plug and thread gages. It can be employed in connection with press fits and for use on machine ways.

If you write maker identify as IEN-9321

PYROMETER . . Portable instrument applies in installed thermocouples

Source: BRISTOL CO.
Griggs & Kelsey Sts., Waterbury 20, Conn.



Sturdy for hard service

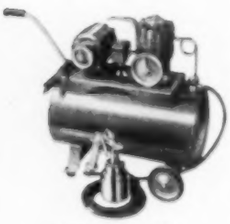
Model 4-321 is a new portable pyrometer that has been designed for hand application in one after another of a set of installed thermocouples, as in the cylinders and exhaust line on a diesel engine. Temperature can be checked at any point where a thermocouple is located by inserting the pyrometer prongs into openings in the thermocouple head and then reading the scale. It is graduated to 1,000 deg. F. Each division represents 20 deg. on the 2½ in. scale length.

A zero adjustment is provided on the housing face. No external power source is required. The housing measures 3⅝ in. in diameter. Overall height and length of the instrument as it is shown in the illustration. The thermocouple measures 4½ in. in length overall.

If you write maker identify as IEN-9322

PAINTING . . Compressor and motor, wheel mounted receiver, gun and hose

Source: W. R. BROWN CORP.
2645 N. Normandy Ave., Chicago 35, Ill.



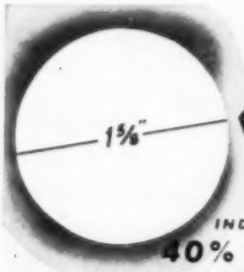
Sprayer No. 950

The compressor in this new assembly of spray painting equipment employs a diaphragm, operates without need for lubrication. It is driven by a ½-hp. motor and is mounted with the motor on a 10-gal. welded receiver. Equipment includes a motor starting pressure switch that operates when tank pressure drops to 30 pounds and opens the motor circuit when the pressure has been built up to 45 pounds. The wheels on which the receiver are mounted can be removed for stationary use.

Complete equipment includes a 15-ft. air hose and one of the company's No. 121 spray guns. Compressor capacity is 3.3 cfm. on free air displacement. The motor operates on 110-volt 60-cycle ac. in standard design.

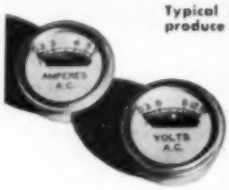
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9323



YOU NEED ONLY THIS SIZE SPACE FOR STERLING INDICATING METERS

40% SMALLER THAN FORMER MODELS



Typical of Sterling's ability to produce just the right meter for your needs at moderate cost is this new small unit for A-C or D-C service. Available in ranges of 1 to 50 V, 1 to 30 amp, and 10 to 1,000 milliamperes—with high readability and accuracy. In dull, black, wrinkle or nickle finishes. Write today for complete facts.

Send for a Sterling catalog today — a complete line of meters for the electronic and automotive field.

STERLING
MANUFACTURING COMPANY
9202 DETROIT AVE.
CLEVELAND, OHIO

If you write maker identify as IEN-9324

MAXI-PICH SHEAVES

four reasons why—

YOU SHOULD DEMAND

"V-BELT" MAXI-PICH Stationary & Motion Control Sheaves

They're engineered for rugged performance from best grades of heat-treated steel and soft-gray iron castings.

You get every advantage of other sheaves **plus** these 4 outstanding features—

1. MAXIMUM PITCH DIAMETER VARIATION
2. CONSTANT BELT ALIGNMENT
3. INTERCHANGEABLE BUSHINGS
4. USES COMMERCIAL V-BELT AND COMPANION SHEAVE

"V-Belt" Maxi-Pich Sheaves fit any factory machine—save installation and operating costs—speed production. For the FULL STORY, ask your "V-Belt" dealer, or write to the V-Belt Engineering Co., Richmond, Va.

V-BELT ENGINEERING COMPANY
RICHMOND, VIRGINIA

If you write maker identify as IEN-9325

Depend on

AUTO-LITE

FOR TEMPERATURE INDICATION

Model G Thermometer (one-to-one ratio, liquid filled type) Priced from $18.

Model V Thermometer (vapor pressure type) Priced from $10.25.

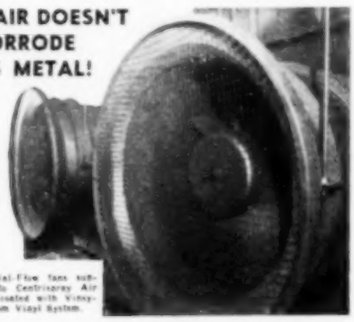
Auto-Lite Indicating Thermometers are available in many types and sizes, with a choice of temperature ranges and mountings to meet your needs. Send for catalog.

THE ELECTRIC AUTO-LITE COMPANY
INSTRUMENT AND GAUGE DIVISION • TOLEDO 1, OHIO
NEW YORK CHICAGO SARNIA, ONTARIO

AUTO-LITE
INDICATING & RECORDING THERMOMETERS

If you write maker identify as IEN - 9326

MOIST AIR DOESN'T CORRODE THIS METAL!



Bahnson Axial-Flow fans supplying air to Centrisorpy Air Washer are coated with Vinsynite-Aluminum Vinyl System.

It's protected with VINSYNITE

Because its industrial air conditioning systems are subjected to very high relative humidities, The Bahnson Company of Winston-Salem needed a finish for the housings and many of the component parts—fans, fan housings, dampers, air intakes, etc.—that provided excellent corrosion resistance.

They found it in Thompson's Vinsynite-Vinyl system—a tough, durable, economical system that is highly resistant to corrosive effects of numerous industrial and climatic exposures.

Vinsynite has many advantages that may reduce drastically the cost of finishing and increase the life of any metal used in your product. We have an interesting report that gives full Vinsynite details. Write for your copy today.

THOMPSON & COMPANY
1085 ALLEGHENY AVENUE • OAKMONT, PENNSYLVANIA
Established 1847

If you write maker identify as IEN - 9327

Why Good Pipe Fitters Choose

RIDGID

4P Geared Pipe Threader

No. 4P, 2½" to 4" pipe

Extra easy to carry and put on pipe

★ Balanced loop handles—easy to swing 4P where you want it.

★ Mistake-proof workholder sets to size *before* put on pipe—only one set screw.

★ Practically no upkeep—drive pinion in oilless bronze bearing; safe enclosed gear.

★ 4 sets of 5 high-speed steel dies for 2½", 3", 3½", 4" pipe. Ratchet handle; RIDGID Universal Drive Shaft available. Also special 4P for conduit.

★ Buy efficient 4P at your Supply House.

THE RIDGE TOOL COMPANY • ELYRIA, OHIO

RIDGID
Work-Saver Pipe Tools

If you write maker identify as IEN - 9329

WRENCH . . Torque indicating, pneumatic drive, to 2,760 inch pounds

Source: GARVIN BROTHERS INC.
P. O. Box 536-A, South Bend 24, Ind.

Accurate to 2 per cent

Model MA-500 is a new large size unit in the company's line of torque indicating wrenches, previously described IEN-5862-52. The new unit is particularly suited for operations such as driving studs in diesel engines. By measuring torque in motion, as the driving proceeds, it is able to limit the action to a predetermined point for a tight job.

The wrench mounts on a radial type support since it is too heavy to be handled by a worker. This mount can be specified to meet given work requirements. The assembly shown in the illustration employs a Walker Turner radial drilling machine complete with work table for its head and work supporting needs. In addition to pneumatic drive the wrench is available with standard or high-cycle electric drive. It also can be supplied with reversing action and with a variety of quick-change wrench attachments for nut running, screw driving, and setting various types of fastener.

If you write maker identify as IEN - 9330

FILE . . Combination hand tool for aluminum, brass, copper, steel

Source: HENRY DISSTON & SONS INC.
49 Tacony St., Philadelphia 35, Pa.

Packaging is 6 to a box

Multi-metal is a new hand file in lengths measuring 10, 12 and 14 inches. It is made with a special tooth shape and special spacing so the same file can be employed on a variety of metals without clogging. Sides are double cut, edges single cut.

If you write maker identify as IEN - 9331

VENTILATING . . Air diffuser for acoustical metal pan ceilings

Source: PYLE NATIONAL CO.
1348 N. Kostner Ave., Chicago 51, Ill.

Details in Bulletin 385

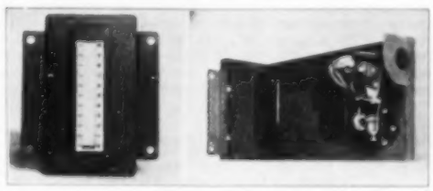
Modular Multi-Vent trade names a new assembly of inverted-pan panel, adjustable diffuser valve, flexible and compressible 3-in. neoprene impregnated Fiberglas tube and a gasketed snap-in tube collar. The collar applies at a 3-in. opening in an air duct to attach the tube to the duct and to bring air down into the inverted pan.

This pan takes the place of the acoustical material in one double-section metal ceiling pan. Both the diffuser pan and the ceiling pan attach to the regular support channels for the ceiling itself to make a completely concealed installation for air delivery in cooling, heating or conditioning.

If you write maker identify as IEN - 9332

SIGNALING . . Miniature indicators for liquid level and valve position

Source: MINNEAPOLIS-HONEYWELL REGULATOR CO.
4456 Wayne Ave., Philadelphia 44, Pa.



Shows clearly at a distance

Metal tape, colored to contrast with the scale, is mounted to move back of the scale by link connection to a standard 3 to 15-lb. pneumatic receiver in this new liquid level or valve position indicator. In the former case the mechanism also can include mercury switches to signal high and low level.

Both instruments measure 3½ in. in width by 6½ in. in face height and are 15½ in. from front to back. Intended application is in a panel with connection to actuating pneumatic instruments at the point where the measurements originate.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN - 9333

Assure Free-Flowing Bins, Hoppers and Chutes with

SYNTRON

"Semi-Noiseless"
ELECTRIC VIBRATORS
with variable control of power

Now, Syntron presents a complete line of Semi-Noiseless Electric Vibrators for use in installations located close to workers where noise is a major factor.

They operate the same as standard Syntron Vibrators—assure a smooth, controlled flow of material—prevent loss of costly time due to material coming "short" on dependent operations—provide a safety factor by eliminating the necessity for your men to climb ladders or framework and balance in precarious positions while spading, rodding or sledging clogged materials.

They can be applied to any size and shape of bin, hopper and chute—whether made of steel, wood, or concrete. New "cushion" action provides a sharp reduction in the operating noise.

Write Today For Free Catalog Folder

SYNTRON CO.
410 Lexington Ave. Homer City, Pa.

If you write maker identify as IEN - 9334

PAID IN FULL

The Crest Company's Edgefield, S. C., plant will pay for its Horton ellipsoidal-bottom elevated water tank and sprinkler system in seven years with insurance premiums saved.

A Horton elevated storage tank providing 'round the clock protection helps lower insurance rates. A sprinkler system with a gravity water supply will often quench flames before serious damage is done.

Horton elevated tanks are built in standard capacities of 5,000 to 3,000,000 gals. When requesting quotations, please state capacity required, location, height, and type of insurance carried.

CHICAGO BRIDGE & IRON COMPANY
2123 McCormick Building • Chicago 4, Illinois
Atlanta • Birmingham • Boston • Cleveland • Detroit • Houston
Los Angeles • New York • Philadelphia • San Francisco
Seattle • Tulsa • Washington, D.C.
Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY and GREENVILLE, PA.

If you write maker identify as IEN - 9335

HALLOWELL
"UNI-TRUKs"
make tough jobs easy!

✓ All-steel, all-welded construction eliminates dead weight, reduces maintenance.

✓ Ribbed angle nose takes more weight without bending, makes pickups easier.

✓ Concave cross members accommodate drums, bags, cartons, rolls, kegs, etc.

✓ "Uni-Truks" roll freely, handle more easily.

Write for descriptive bulletin 789. STANDARD PRESSED STEEL Co., Jenkintown 14, Pennsylvania.

HALLOWELL MATERIALS HANDLING DIVISION

sps

JENKINTOWN, PENNSYLVANIA

If you write maker identify as IEN-9336

For Dependable Flow Control!

THE DAVIS NO. 60 FLOAT VALVE

...use

DAVIS

FLOAT VALVES

ENGINEERS interested in working out efficient, trouble-free fluid level and flow control hookups will find a wide choice of units offered in the Davis line of float valves, float boxes, and fluid control valves.

For Float Valve dependability the Davis No. 60 is unexcelled. Here are a few of its outstanding features:

1. The Famous Davis Single-Seat Pilot Stem Valve! Tight-closing and non-sticking. Standard sizes will open against any pressure up to 125 lbs.

2. No internal packing! Disc renewable easily and economically. Hot or cold liquid at high or low pressure handled without hunting or water hammer.

3. Sizes 2" and smaller are all-brass valves. Larger sizes have semi-steel body, bronze bonnet, piston and trim. Globe or angle body patterns. Send for Bulletin 101-E.

DAVIS REGULATOR CO., 2529 S. Washtenaw Ave., Chicago, Illinois

DAVIS REGULATOR COMPANY

If you write maker identify as IEN-9337

SPEED HAND-LABELING ON HARD-TO-LABEL JOBS with

Mystik Self-Stik LABELS

SPEED PRODUCTION—No moistening. Stick instantly.

EASY APPLICATION on hard-to-reach, hard-to-label surfaces.

FLEXIBLE and stretchable for curved or uneven surfaces.

PERMANENT—Resistant to stain, moisture, scuffing, delamination. Removable, if desired, without staining.

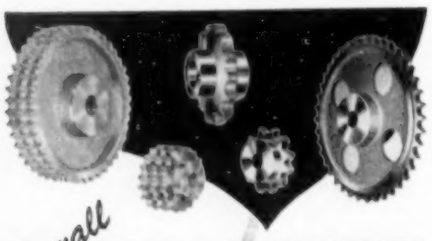
BEAUTIFUL—Finest color printing; die-cut; embossed; varnished or acetate laminated.

The outstanding qualities of MYSTIK LABELS are due to rubber saturated stock and the strongly bonded rubber adhesive, providing strength, flexibility, toughness, strong adhesion and ease of handling. Write for full information and samples.

CHICAGO SHOW PRINTING COMPANY CHICAGO • NEW YORK

2644 NORTH KILDARE • CHICAGO 39

If you write maker identify as IEN-9338



Sewall STOCK SPROCKETS

★SPEEDY SERVICE

★PRECISION BUILT

★COMPLETE LINE

If your product will permit a standard pitch, look it up in the Sewall Catalog of Stock Sprockets. Or let us send you an estimate on your special design. True running, durable gears and sprockets all add up to overall quality in Sewall products.

CUSTOM-BUILT GEARS for every requirement

Distributors of Atlas Roller Chain

Send for FREE Sprocket CATALOG

or Phone Us at NEstor 1381

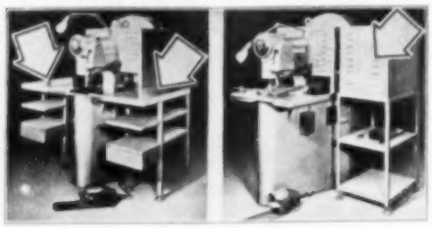
E. R. SEWALL MANUFACTURING CO.

686 Glendale St. • St. Paul 4, Minn.

If you write maker identify as IEN-9339

FURNITURE . . Tables, tool rack, cabinet for application at a machine

Source: WALES-STRIPPIT CORP.
361 Payne Ave., North Tonawanda, N. Y.



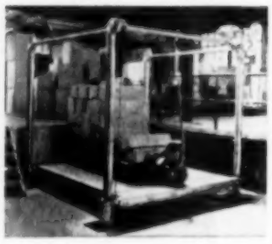
Complete illustrated data in Catalog 10-A

Machine operation is assisted, as in the case of the company's sheet metal fabricator shown in the illustration, by addition of new combination work tables, auxiliary cabinet and tool racks on one or both sides of the machine. The tables are adjustable in height and can be moved to the front or rear to suit the requirements of a given set-up. They and the tool racks and cabinet are made of pressed steel to hold tools, fixtures, parts and to provide additional working surfaces.

If you write maker identify as IEN-9340

ELEVATOR . . Motor driven unit for loads to 3 ton and lift to 5 feet

Source: SERVICE CASTER & TRUCK CORP.
545 N. Browaswood Ave., Albion, Mich.



Useful at shipping platforms

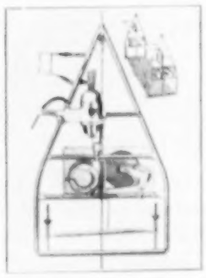
New design of the company's Leveler self-contained elevator includes a centrifugal governor acting as an emergency brake and new positive stops to limit movement at the top and bottom limits. The 8 by 6½-ft. load platform is suspended on four plow steel wire ropes connecting to the enclosed 1-hp. drive. This drive is able to lift the platform through the 5-ft. movement in 50 sec. with a capacity 3 ton load.

Overall height is 7 ft., 10 inches. The complete unit can be moved from one location to another to operate without need for any special foundation. The unit is a companion design to the larger 6-ton equipment, previously described IEN-7089-52.

If you write maker identify as IEN-9341

SCAFFOLD . . Swing stage applies in pair, takes 24 in. platform

Source: BIL-JAX INC.
102 Wyse Road, Archbold, Ohio



Climbs rope like monkey

Worm gear, driven by a portable electric drill, is mounted in the tubular frame of this new Powered Stirrup to climb up and down on a ⅜-in. wire rope. The rope feeds down through a guide at the top around a set of sheaves to extend on downward. It does not wind on a drum. The worm and gear will not overhaul so there is no danger of dropping in the event of power failure. A clamp on the base of the frame takes a platform 24 in. in width. A bracket is provided on the side of the frame for a guard rail.

Weight per unit with the electric drive is 80 pounds. Lifting capacity, in addition to the weight of the unit itself, is about 700 pounds. Travel speed is 16 ft. per minute. The wire rope rates 5 ton. Each stirrup is equipped with 75 ft. of the rope. A safety clamp at the upper point of the frame can be set to prevent accidental descent.

If you write maker identify as IEN-9342

ELECTRICAL PRODUCTS . . Reference handbook of 1,760 pages on fundamentals, selection, application

Electrical Modernization Bureau, Inc.
108-12 Mamaroneck Ave., White Plains, N. Y.

Practical information for industrial users of electricity is contained in new Second Edition of Lincoln's "Industrial-Commercial Electrical Reference", list price $25. It presents information on electrical fundamentals, wiring, distribution, control, motors and generators, lighting, heating, welding, communications, batteries, electronic equipment, instruments, plating, insulation, drives. A summary sheet is available on request. It shows sample pages and a detail list of contents.

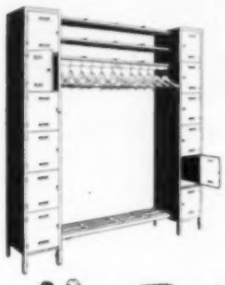
All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9343

VALET RACKS

Lockerette KEEPS WRAPS "in press"

improves health and morale—lowers absenteeism



Wraps are exposed to air and light. Employees do not face the weather in damp wraps that have been crumpled in dark lockers — do not eat soggy lunches, soaked by wet hats or gloves. Each person has his own spaced coat hanger, ventilated hat shelf and 12" x 12" x 15" deep lock box for lunches, tools and personal effects. Lockerettes save space too . . . the No. 6-12 (illustrated) accommodates 12 people in 6 feet; the No. 9-18 (3-pedestal) accommodates 18 in 9 feet.

Write for Bulletin OL5

VOGEL-PETERSON CO.
624 So. Michigan Ave., Chicago 5, Ill.

If you write maker identify as IEN-9344

For Production Line Applications and General Lifting

CM COMET ELECTRIC HOISTS

PUSH BUTTON CONTROL

Capacities: ¼ to 2 tons

PENDANT ROPE CONTROL

● Plug in on 110 single phase or 220—440 volt power lines. Fast. Safe. Herc-Alloy flexible welded load chain. Lifetime lubrication. COMET hoists save energy . . . reduce materials handling costs. Anyone can operate.

COMET CATALOG No. 150—18 pages of illustrated information sent on request or ask your CM Distributor.

CHISHOLM-MOORE HOIST CORPORATION
(Division of Columbus McKinnon Chain Corporation)
GENERAL OFFICES AND FACTORIES: TONAWANDA, N. Y.
SALES OFFICES: New York • Chicago • Cleveland

If you write maker identify as IEN-9345

Not investigate the use of aluminum or magnesium castings on *your* product?

Almost a half-century of experience producing quality Well-Cast light metal castings in sand, semi-permanent and permanent mold-Well-Made Wood and Metal Patterns.

THE WELLMAN BRONZE & ALUMINUM CO.

DEPT. 9, 12800 SHAKER BLVD., CLEVELAND 20, OHIO

If you write maker identify as IEN - 9346

WEBBER

TRADE MARK REGISTERED

INDUSTRIAL

FREEZERS

For Shrink Fit-Stabilization of Metals-Hardening and Testing with Temperatures as low as -165°F.

Patents Pending

36 STANDARD MODELS

. . . or built to your specifications at no additional cost

A FREEZER FOR EVERY NEED

Write for more complete information
Representatives in Most Cities

Used in many of the largest industrial plants, Webber Industrial Freezers are performing heavy-duty, dependable service with extreme accuracy at temperatures as low as -165°F. Lengthens life of valuable cutting tools, eliminates "heat-and-hydraulic-press fit" methods by the use of shrink and press-fit methods, eliminates warpage and high rejection rate, common with other methods, saves cost of dry ice, amortizes itself in less than one year. Speed production—Save time—Save money with Webber Industrial Freezers.

INDUSTRIAL FREEZER DIVISION
WEBBER APPLIANCE CO., INC.
5-2740 MADISON AVENUE • INDIANAPOLIS 3, INDIANA

If you write maker identify as IEN - 9347

Rolling Everywhere on MONARCHS

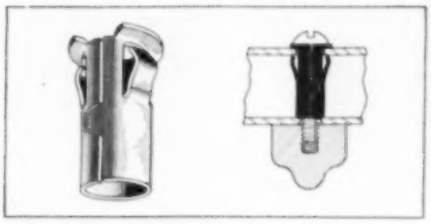
● *You find lift trucks everywhere.* • They lift, they store, they place, they transport . . . and they carry the bulk of the material handling work. Many of these power units roll on • Monarch Tires . . . specifically Mono-Cushions. • Mono-Cushions cushion the countless shocks, they're easy on the trucks, easy on the loads, easy on the floors and easy on the drivers. • Size for size, Monarch's Mono-Cushions soak up the bumps better and save a lot of maintenance. • *When you need tire replacements, order from your truck manufacturer. He can supply you, through his distributors, with famous Mono-Cushions.*

THE MONARCH RUBBER COMPANY
201 Lincoln Park • Hartville, Ohio
SPECIALISTS IN INDUSTRIAL SOLID TIRES AND MOLDED MECHANICAL RUBBER GOODS

If you write maker identify as IEN - 9349

FASTENING . . Spring steel spacer for steel partitions, furniture

Source: TINNERMAN PRODUCTS INC.
Box 6689-A, Dept. 14, Cleveland 1, Ohio



Holds panel facing sheets in line

Facing sheets on the two sides of a steel panel are held in correct relation to each other and a guide passage is provided for a threaded fastening to a unit such as a handle by this new spring steel Speed Clip. The clip is inserted through a hole in a liner as in a drawer. It holds in place by means of its spring fingers and its flanged end.

A threaded fastener can then be inserted through it to the outer panel to engage the threads as in a drawer handle. The unit is about ¾ in. in length and takes an 8-32 screw. It enters through a hole measuring 0.281 in. in diameter.

If you write maker identify as IEN - 9350

PAINTING . . Oil base liquid to seal porous exterior surfaces

Source: L. SONNEBORN SONS INC.
80 Eighth Ave., Dept. P-3, New York 11, N. Y.

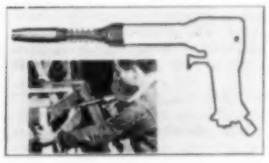
Ready to use as supplied

Six colors, from ivory to brick red, are included in a new line of exterior oil paint known as Hydrocide Colorcoat. The paint is about the consistency of a very soft putty. It is flowed on porous exterior surfaces to cover about 100 square feet to the gallon. Flow application can be assisted with a stiff brush on a surface that is thoroughly dry, free of dust and soot and on glossy surfaces that have been sanded down. The liquid primes, seals and finishes.

If you write maker identify as IEN - 9351

NAILING . . Hammer attachment to drive 6 to 16 penny common nails

Source: FOX NAILER CORP.
3704-8 Airport Way, Seattle 4, Wash.



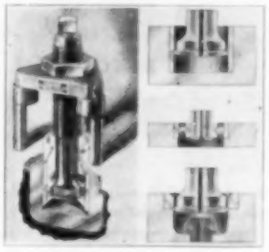
20 nails per minute

Fox No. 16 is a new attachment that can be applied on any pneumatic hammer with a No. 2 Morse taper. The attachment adds 6 in. to the length of the tool, weighs 1 lb. and consists of four parts including the application spring, the nose body, a retainer and the alloy steel plunger. The plunger reciprocates rapidly when air is admitted to the hammer. It drives a nail that has been inserted head first into the end of the attachment. The nail will stay in line for driving upwards, horizontally or downward.

If you write maker identify as IEN - 9352

PULLING . . Sleeve extractor expands to grip, rates 5 ton load

Source: CROZIER MACHINE TOOL CO.
682-86 N. Prairie Ave., Hawthorne, Calif.



Pull is to 2½ inches

A set of expanding sleeves to enter a hole measuring ½ to 2 in. in diameter, a base, two sets of three legs and a pulling nut that threads on the sleeve shank make up this new pulling tool. The parts are contained in a metal case, measuring about 14 by 10 by 2 inches. Weight is 22½ pounds.

The collet type end of the expanding arbor carries a sharp tapered shoulder that will bite into a metal bushing, penetrate between a press fitted ring and the shoulder on which it is riding. It will shoulder itself under the inner race of the bearing when a set screw is turned that threads down through the arbor center. The screw is locked in place while the arbor is being drawn out by a nut on the set screw threads carrying the bushing or other part with it.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 80

If you write maker identify as IEN - 9353

WISSCO BELTS

assure trouble-free production schedules

Present-day demands for maximum production call for equipment that can be counted on to stand up and deliver dependable, uninterrupted service—particularly where punishing conditions are encountered.

Wissco Metal Processing Belts are specially engineered in various metals and alloys for long-lasting resistance to abrasion, corrosion and temperature extremes.

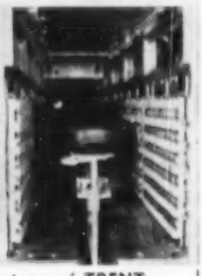
For additional information write or phone our nearest sales office.

THE COLORADO FUEL & IRON CORPORATION—Denver, Colorado
THE CALIFORNIA WIRE CLOTH CORPORATION—Oakland, California
WICKWIRE SPENCER STEEL DIVISION—Clinton, Massachusetts

WISSCO BELTS
PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL & IRON CORPORATION

If you write maker identify as IEN - 9354

You May Not Make Television Tubes . . .



But you can have all the profitable advantages of TRENT

"Folded-and-Formed" Heating Elements

View above shows typical installation of Trent Patented "Folded-and-Formed" Racks . . . in continuous television tube annealing oven. Custom-built racks available in sizes up to 600 K.W. for one bank.

STANDARD RACKS

in 12" x 12" sections, from 1.5 K. W. to 7.5 K. W. Installed singly or in multiples to give any desired K. W.

Write for Recommendations

TRENT INC
Electrically Heated Industrial Equipment
247 LEVERINGTON AVE. PHILA. 27, PA.

If you write maker identify as IEN - 9355

save with Metso® Detergents

metals . . .

When you clean with Metso, hold down rejects in two ways:

1. Remove all oily dirt, heavy greases or buffing compounds, etc., for chemically clean surfaces. (Metso prevents re-deposition of removed soil)

2. Protect the metal against attack. (Metso's special component, soluble silica, restrains the corrosive effect of the alkali).

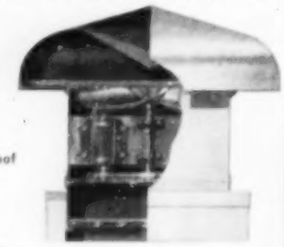
For free test sample of Metso Detergent attach Metso trade mark to your letterhead.

Metso Detergents
PQ SILICATES OF SODA

Philadelphia Quartz Company
1131 Public Ledger Building
Philadelphia 6, Pa.

If you write maker identify as IEN-9356

Highly Efficient
Big Capacity
Direct or Belt Drive
Quickly Accessible
Quiet in Operation
Easily Installed
Completely Weatherproof
Inconspicuous



Announcing the BURT LOW TYPE FAN VENTILATOR

This new Burt ventilator is modern in engineering and design. Its efficient power-driven fan provides equally high capacity as an exhaust fan ventilator or *as a fresh air supply unit*. Its low, clean lines meet architectural requirements for an inconspicuous roof ventilator. Standard sizes include fans from 12" to 60" in diameter. Automatic or motor operated louver-type dampers may be used. See Sweet's for complete data on the Burt LOW TYPE FAN VENTILATOR or write us for Bulletin SPV-16.

FAN & GRAVITY VENTILATORS - LOUVERS - SHEET METAL SPECIALTIES

The Burt Manufacturing Company
909 So. High St. Akron 11, Ohio

If you write maker identify as IEN-9357

PRETTY SPRY FOR AN OLD GUY

M.E. 1251-2

20 years makes any electrical connector a venerable old-timer and the JOY plug pictured above has faithfully served its owner (name on request) since '31. *Your portable electric connectors will also last longer and require less maintenance attention if they're JOY built.*

TODAY'S DESIGNS

Thousands of styles and shapes ranging from "Cartridge-size" to mammoth round units for heavy industrial use have been developed. NO question about it, the JOY electrical connector line deserves your earnest consideration. Ask for your free copy of bulletin MC108, now.

JOY MANUFACTURING COMPANY
HENRY W. OLIVER BUILDING, PITTSBURGH 22, PENNSYLVANIA
IN CANADA: JOY MANUFACTURING COMPANY (CANADA) LTD., GALT, ONTARIO

If you write maker identify as IEN-9358

HOW TUTHILL HELPS YOU

Fit the Pump to the Need...

Not the Need to the Pump!

The Tuthill line of positive displacement internal-gear rotary pumps is so flexible that you can find just the pump to fit your need for lubrication, coolant, hydraulic service and liquid transfer. There are mechanically sealed pumps—automatic reversing models—pumps with internal by-pass feature—and stripped models that can be built directly into the design of your equipment. So why attempt to fit the need to the pump?

The new Tuthill Pump Guide provides a quick reference chart to help select the right oil pump for your job.

WRITE FOR YOUR COPY TODAY!

TUTHILL PUMP COMPANY
939 East 95th Street, Chicago 19, Illinois

If you write maker identify as IEN-9359

CARBIDE PARTS . . Based on chromium, kit of samples for test purposes

Source: CARBOLOY
11167 E. 8-Mile Road, Detroit 32, Mich.

List price is $10.75

Nine sample pieces of new Grade-608 cemented chromium carbide in the company's Series-600 carbides, previously described IEN-12135-51, are assembled in a transparent plastic case for test use by designers, engineers, metallurgists. Typical applications for which this carbide can be employed include shear blades for molten glass, core pins for use in baking ceramic parts, guides for fishing rods, centrifuge nozzles, bearings that must operate in the presence of corrosive elements, textile guides, nozzles and valves to process food and chemical products, valves and core pins in die casting equipment, punches for motion picture film.

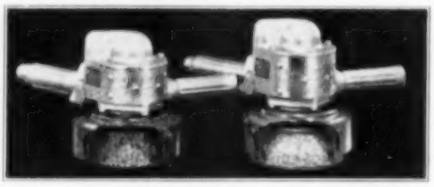
The carbide is a strong and stable non-magnetic metal containing 83 per cent chromium carbide, 2 per cent tungsten carbide, and 15 per cent nickel. Parts are formed by the powdered metal process, the resulting pieces showing excellent resistance to attack by acids, salt spray, steam erosion, high temperature oxidation and abrasion. Machinability and hardness correspond with tungsten carbide.

The kit contains three pieces ¼ in. square by 2-in. in length, two pieces ¼ in. square by 1-in. in length, three pieces $\frac{3}{16}$-in. id. by ½-in. od. by $\frac{3}{16}$-in. in length and one piece of rod ⅛-in. in diameter by 1-in. in length.

If you write maker identify as IEN-9360

GRINDING . . Portable pneumatic, also for sanding and wire brushing

Source: ROTOR TOOL CO.
26302 Lakeland Blvd., Cleveland 23, Ohio



Quickly cleans an arc weld seam

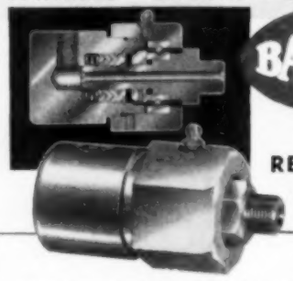
Model B-12 and Model B-35 are two new units in the company's line of vertical pneumatic grinders. Both are characterized by their magnesium housings, steel plate reinforcement at the front and brass end plates in the rotor chamber. The rotor shaft is mounted on ball bearings and is equipped with a quick-acting governor to hold a set speed at 3,500, 4,500, 5,000 or 6,000 rpm.

Model B-12 weighs 10 lb. and is 7 in. in height. Model B-35 weighs 10¾ lb. and measures 7½ in. in height. At the high speeds either unit takes a 5-in. cup wheel or a 7-in. sanding pad or a specially tested flared cup wheel 6 in. in diameter by 2 in. in width by ¾ in. in thickness.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9361

For High Speed Rotating Connections on
SPINDLES • CHUCKS • CLUTCHES



BARCO

TYPE V REVOLVING JOINTS

Use Barco TYPE V Revolving Joints wherever you need high speed, low torque, leakproof rotary connections for air or hydraulic lines on machine tools.

- **LIGHT RUNNING!** Ball bearing design handles both radial and light end thrust with low torque and minimum wear.
- **LEAKPROOF!** Thanks to Barco's exclusive "CTR" V-ring type seal.
- **PRECISION-BUILT!** All parts machined to close tolerances. Parts interchangeable and renewable.
- **COMPACT, DURABLE!** Easy to install where space is limited. Withstands rugged service.
- **WIDE SPEED RANGE!** Up to 2500 RPM on light pressure applications. Lower speeds for high temperatures and pressures. Send for Catalog 300.

BARCO MANUFACTURING COMPANY
1538J Winnemac Ave. • Chicago 40, Illinois

If you write maker identify as IEN-9362

International Stapling Machine saves $20,000 a year for UARCO

Uarco, Inc., Chicago manufacturer of business forms reports a savings of more than $1600 a month with an International Retractable Anvil stapling machine.

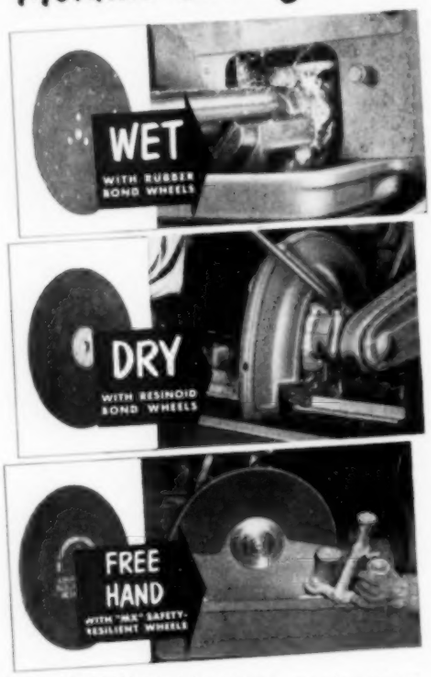
The stapler, a double-headed, air operated model priced at only $3400, is used to close filled cartons from the outside, top and bottom simultaneously. Daily volume is 2,500 cartons of varying sizes . . . in a 12 hour period.

International Stapling Machines will save you as much as 50% on shipping costs . . . write for additional details.

INTERNATIONAL STAPLING MACHINES
INTERNATIONAL STAPLE & MACHINE COMPANY
800 East Herrin Street, Herrin, Illinois

If you write maker identify as IEN-9363

Metallic Cutting Off...



Abrasive Cutting Off Wheels by CARBORUNDUM are from 12 to 20 times faster than steel saws, on all kinds of metals—produce smoother, more finished, better quality cuts than you can get with flame cutting or shearing—and they do the job at lower overall cost than conventional methods. Rubber bond wheels as thin as five thousandths—resinoid bond wheels as thin as $\frac{1}{16}$"—"MX" wheels as thin as $\frac{1}{32}$"—there is a wheel by CARBORUNDUM for every high speed production operation in your shop.

ORDER FROM YOUR CARBORUNDUM DISTRIBUTOR TODAY. He's your best bet for complete stocks, prompt delivery, experienced counsel on latest developments in the field. You'll find him listed in the yellow pages under "Abrasives." Phone him today—it's to your profit!

This "tell-all" booklet is FREE!

THE CARBORUNDUM COMPANY, Dept. IEN-81-52
Niagara Falls, New York
Please send me, FREE, your booklet No. 6, "Metallic Cutting Off with Abrasive Wheels."

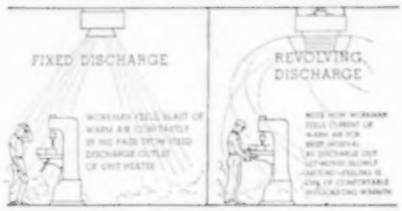
NAME AND TITLE
COMPANY
STREET AND NUMBER
CITY ZONE STATE

Only CARBORUNDUM TRADE MARK
offers ALL abrasive products...to give you the proper ONE

"Carborundum", "Aloxite" and "MX" are registered trademarks which indicate manufacture by The Carborundum Company, Niagara Falls, N.Y.

If you write maker identify as IEN-9365

What is the BIG difference between revolving and fixed unit heater discharge outlets?



WING REVOLVING UNIT HEATERS are successfully solving the heating problems of thousands of industrial plants today because they assure a uniform comfortable temperature throughout, with no hot blasts, no cold spots, no chilly corners. Instead of annoying hot blasts, the worker is conscious only of a pleasing sensation of fresh, live invigorating warmth . . . and in Summer, with the steam turned off, these revolving "heaters" become an equally effective cooling system. *Write for Bulletin HR-6.*

L. J. Wing Mfg. Co. 160 Vreeland Mills Road Linden, New Jersey

If you write maker identify as IEN-9366

LOW PRESSURE RELIEF VALVE

Positive Control at 7-10 p.s.i.

Protect storage and shipping containers from excessive pressures with the new ANDAL type C-13 valve. It provides accurate control of gases and vapors at pre-set range of 7 to 10 p.s.i. Valve features compact design, sturdy construction, non-corrosive parts, standard pipe thread fittings. Meets government salt spray tests. Four sizes available with various types of mountings and constructions. ANDAL is a manufacturer of low-pressure relief valves for prime contractors of defense items.

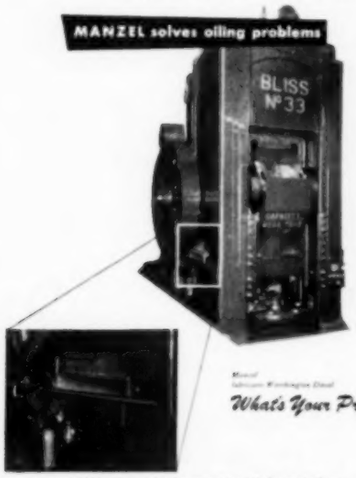
Write today for Data Sheet No. C-13

ANDREWS-ALDERFER COMPANY

1079 HOME AVE. • AKRON 10, OHIO

If you write maker identify as IEN-9367

MANZEL solves oiling problems



What's Your Problem?

Insure more years of economical, trouble-free service from all types of machinery with Manzel Force Feed Lubrication. Adaptable to numerous difficult oiling problems. Manzel's can be engineered to your requirements. Experienced representatives throughout the country.

Manzel 243 Babcock Street Buffalo 10, N. Y.

If you write maker identify as IEN-9368

SORTING . . Electronic equipment grades small product pieces by color

Source: NEWMAN'S INC.
702 S. Maybelle, Tulsa 1, Okla.

Made in England

Seed sorting is based upon color as a function of quality in such seed items as peas, beans, coffee, cocoa, nut kernels by this new Gromax Color Selector. It employs a three channel photoelectric unit to scan all sides of the work pieces as they fall individually in a steady stream through a vertical illuminated tube. Any individual off-color pieces are rejected from the flow stream by low pressure compressed air so only the good pieces will reach the delivery outlet.

Feed to the equipment is designed so the pieces arrive at the top of the vertical passage in single file. Impulses from the photoelectric cells are amplified and employed to operate the ejecting mechanism. Adjustments are made on panels at the front of the metal housing.

Two machines assemble single and twin passages for the work and provide basic capacities of about 40 and 60 lb. per hour. Each assembly can be supplied for stationary or mobile installation and can be used singly or in independent units in a battery of any number. One supervisor can attend as many as 50 units. Input is on 110-volt ac. with input at 1,250 watts. The single machine, shown to the left in the illustration, measures about 14 by 22 by 60 inches.

If you write maker identify as IEN-9369

HANDLING . . Plastic tote box to nest and carry specified work

Source: BASSONS INDUSTRIES CORP.
1430-34 West Farms Road, Dept. T, New York 60, N. Y.

Built to your order

Styrene copolymer plastic, trade named Royalite, is the material from which this new plastic tote box is formed in an inexpensive mold. The box measures 24 in. in length by 19 in. in width by 7 in. in depth. It replaces a wood box to handle gun stocks in this particular case. Its initial cost is 4 to 5 times that of the wood box previously used. Life expectancy however is 8 to 12 years as against the maximum year for a wood box.

The units can be nested or stacked at right angles to each other. Wings are cemented and riveted to the long sides so the box can be slid upon them along the floor and they can be replaced when they are worn out. Mold cost for the box illustrated is $500. It lists at $14 and replaces 10 sizes of wood box previously employed.

All Makers of These And All Other Products Are Listed In THOMAS' REGISTER . . Descriptions . . Ratings . . See Page 50

If you write maker identify as IEN-9370

A PAID NEWS ADVERTISEMENT BY SCHATZ MANUFACTURING CO.

How a special low-cost ball bearing eliminated assembly rejects

This Schatz "Commercial" Ball Bearing was specially designed to support the thread spool on a textile weaving machine operating at 2500 RPM under a 20-pound load. Previously, the spool had been held by a slotted washer, spot-welded to a standard bearing. Rejects were high, since the heat of the welding operation caused distortion of the balls and races.

Schatz engineers designed a new bearing with a split inner race and a flanged outer race to replace the washer. Result: the bearing could be used immediately without the costly spot-welding operation, and rejections due to heat distortion were completely eliminated.

Special "Commercial" Ball Bearings—like the one shown—are often less expensive than standard bearings, since costly assembly and machining time is eliminated.

We will be glad to adapt or design a low-cost Special Ball Bearing to fit your specific requirements. Write for literature.

THE SCHATZ MANUFACTURING COMPANY
6750 Fairview Avenue, Poughkeepsie, N. Y.

If you write maker identify as IEN-9371

. . . by using

Motch & Merryweather

Triple-Chip Saw Blades!

In both the segmental type for larger work and the solid type for smaller work, Motch & Merryweather Triple-Chip Saw Blades give the same proven advantages: speed *and* accurate lengths *and* square, burrless ends with minimum scrap *and* long life *and* last low cost. 8" to 84" diameter . . . The top advantage: *Triple-Chip turns cuts into dollars.*

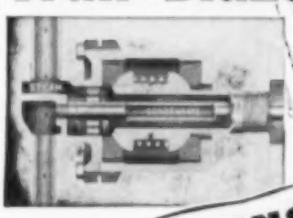
• *For advice and quick service, talk with your local Motch & Merryweather dealer.*

THE MOTCH & MERRYWEATHER MACHINERY CO.
PENTON BUILDING • CLEVELAND 13, OHIO

COMMAND OUR UNPARALLELED EXPERIENCE IN CIRCULAR SAWING

If you write maker identify as IEN-9372

Trail-Blazer . . .



JOHNSON Rotary Pressure JOINTS

As a brand new approach to an old problem, the Johnson Joint introduced a form of stuffing box without stuffing, and without any need for oiling or adjusting. Years of service in the textile and paper industries have proved it unmatched for the twin tasks of boosting efficiency and slashing maintenance. Now its unusual possibilities are being utilized on rubber mills, grain dryers, rolling mills and many similar machines. If you're looking for a better way to get steam or liquids in or out of rotating machine parts, get all the facts.

Sizes and special types for all needs; write for literature.

The Johnson Corporation
846 Wood St., Three Rivers, Mich.

If you write maker identify as IEN-9373

IT'S MURDER

TO HAVE RUTTED CONCRETE FLOORS

When They Can Be So Easily Repaired With

STONHARD RESURFACER

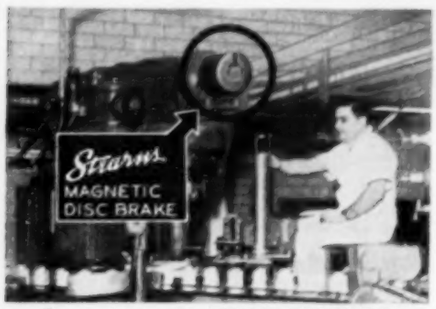
Use it to patch ruts or as a complete overlay. No special tools are required. STONHARD RESURFACER transforms dangerous areas into smooth, safe, resilient surfaces that become even more compact with continued use. Only ½ inch is necessary . . . and your own maintenance crew can do the job. Find out about our trial offer plan . . . mail the coupon today!

STONHARD COMPANY
Building Maintenance Materials since 1922
102 Stonhard Building, 1306 Spring Garden St., Philadelphia 23, Pa.

Please send me your RESURFACER folder: 102/8/52

Name.....
Company.....
Address.....
City.....Zone.....State.....

If you write maker identify as IEN-9374



Watchdog AT BLATZ BREWERY!

Canning 328,000 cans of beer per day requires a smooth, even operation at the Blatz Brewery in Milwaukee. Stearns Magnetic Disc Brakes are an integral part of their modern equipment to quickly stop the process in case of jamming and miscapping. Install Stearns Magnetic Brakes and Clutch-Brake units for smooth, dependable starts and stops.

Write for Bulletin 604E.

A. C. or D. C. Magnetic Brakes for motor or machine mounting.

Foremost in the Magnetic Field
Stearns MAGNETIC INC.
626 SOUTH 28TH STREET • MILWAUKEE 46, WISCONSIN

If you write maker identify as IEN-9375

IF YOU HAVE A DIFFICULT STACK PROBLEM take a tip from Viroqua Co-op Creamery, Viroqua, Wisconsin. Three DeBothezat Induced Draft Bifurcator Fans maintain constant boiler draft regardless of weather conditions. According to manager Sylvan Dregne, these fans were installed for approximately 1/3 the cost of a suitable brick stack.

How much can YOU save by installing Induced Draft Bifurcator Fans? Ask your DeBothezat representative or write for details.

DeBothezat Fans
Division of American Machine and Metals, Inc.
EAST MOLINE, ILLINOIS

If you write maker identify as IEN-9376

50% MORE POWER!

That's what this speedy, new B&D SCRUGUN has to boost its capacity from No. 10 to No. 12 wood screws! And it also gives you a new handle shaped for plenty of finger room—light weight (only 5¼ lbs.), and amazing compactness (only 9" overall) to cut fatigue—husky, high-quality parts for *continuous* operation! See your nearby B&D Distributor for a demonstration, WRITE FOR FREE LITERATURE to: THE BLACK & DECKER MFG. CO., 615 Pennsylvania Ave., Towson 4, Md.

*Trade Mark Reg. U. S. Pat. Off.

LEADING DISTRIBUTORS EVERYWHERE SELL
Black & Decker
PORTABLE ELECTRIC TOOLS

"I WISH I HAD"

This column concentrates upon reader requests for information on sources of supply for products or services or technical advice which we ourselves cannot supply, advises you of new patent-protected products for your possible manufacture, and available surplus of specialized products.

It is published to invite your suggestions and comments, which are forwarded immediately to the originator, just as we will be happy to publish similar problems for you.

EQUIPMENT . . "I wish we had a source from which we can purchase used 50-ton horizontal or vertical tensile strength testing machine such as the equipment used by chain manufacturers and wire rope makers, N. J." **IEN W-75**

MASTER MECHANIC . . "I wish I had contact with a firm requiring a master mechanic with 26 years of all-around experience with heavy mechanical equipment. I am located at present in New York City, but am ready to move." **IEN W-76**

MOTORS . . "I wish we had a source for which we have been searching for some little time without success for the component parts of a ½ hp. split-phase standard ball bearing motor for operation on 110 volt 60 cycle ac. at constant duty on 40 deg. C. temperature rise. We want to install these component parts in our own polished aluminum end bells and need a dependable source of supply ranging in quantity between 200 and 400 per month. Washington, D. C." **IEN W-77**

SURPLUS . . "I wish we had a buyer for about 3,000 lb. or 500,000 pieces of felt discs, 2 in. in diameter by ½ in. in thickness, with a rubber cover on one face. They are suitable for gluing with the felt side to give non-sliding contact on the rubber side. The stock is located in Connecticut. We will sell all or a portion of it." **IEN W-78**

SURPLUS . . "I wish we had a buyer for a stationary Sullivan air compressor rating 551 cfm. and 120 lb. with operation at 870 rpm. The compressor is Class WN-102, Serial 19074, Model B, size 11½ and 7 by 7 inches. It is equipped with a 100-hp. squirrel cage motor for operation on 440-volt 3-phase 60-cycle ac. at 1,150 rpm. Tahawus, N. Y." **IEN W-79**

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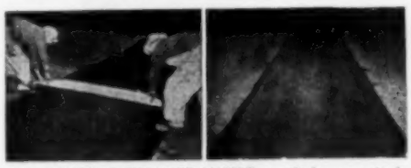

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